AGRO--INDUSTRIES IN INDIAN ECONOMY
A SELECT ANNOTATED BIBLIOGRAPHY

DISSERTATION

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This is to certify that the M.L. & I.Sc. dissertation of Mr. Shariq Ahmad on ' AGRO-Industries in Indian economy: A select annotated bibliography' was compiled under my supervision and guidance.

(S. Mustafa K.Q. Zaidi)
READER

Dedicated

To

My Parents

CONTENTS

ACKNOWLEDGEMENT

First and foremost, I would like to place on record my everlasting gratitude to Almighty God, the most merciful, the most benovalent, who provided me all the necessary strength and guidance for timely completion of this dissertation. Without the help of Almighty God, this work would have not seen the light of the day.

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(SHARIQ AHMAD)

INTRODUCTION TO BIBLIOGRAPHY

AIM AND SCOPE

The present study displays in the form of annotated bibliography resembles together all the significant literature dealing with 'Agro Industries in Indian Economy' Although the bibliography is selective in nature but exhaustive, and an attempt has been made to cover all important aspects of Agro Industries.

I am confident that the bibliography will be useful to all those who have some interest in the field of Agriculture particularly on Agro-Industries.

The bibliography is divided into three parts.

The Part I, deals with the description of the work.
The Part II, wichis themain part of the present study consists of an annotated list of 200 articles on the subject these entries are not comprehensive but are fairly representative on the subject.

The Part III, however deals with indexes.

METHODOLOGY

The primary sources were consulted in the following libraries.

(i) Maulana Azad Library, Aligarh Muslim University, Aligarh.

(iii) Seminar library,Department of Geography, AMU.

(iv) Seminar Library, Institute of Agriculture, AMU.

(v) Coaching and guidance centre library, AMU.

(vi) Seminar library, General Education Centre, AMU.

The procedure followed in preparing the bibliography was as follows :

(1) The secondary sources were consulted in Maulana Azad Library, Aligarh to find out the location.

(2) the relevant bibliographical details were noted down on 5"x7" cards following the ISI standards.

(3) The primary sources were conslted in MAL, Aligarh.

(4) On completion of the abstracts subject heading were assigned, subjectheadings are completely Co-extensive of the extent possible.

(5) The subject headings were arranged in an alphabetical sequence of various elements.

(6) In the end three separate alphabetical indexes were given. Author Index, title index, subject Index providing represence to various entries by their respective members.

(7) Alphabetical list of periodicals as well as months are given.

SUBJECT HEADING

Attempt has been made to give Co-extensive subject heading as much as possible. It will facilitate the reader to find out desired articles from this bibliography.

A humble effort has been made to follow postulates and principles as suggested by Dr. S.R. Ranganathan in the formation of subject headings, these are arranged strictly by theprinciple of alphabetical sequence.

STANDARD FOLLOWED

Care has been taken strictly to follow the rules and practices of the Indian standard for Bibliographical References (IS : 2381-1963) for each entry of the bibliography. Thus it gives an uniformity for the bibliographical references through out this select bibliography. This classified cetalogue code (CCC) of Dr. S.R. Ranganathan have followed for choice and rendering of authors and headings.

ARRANGEMENT

The entries in this bibliography one grouped and arranged strictly under subject headings alphabetically letter by letter.

An entry is preceded by subject heading incapitals, the entry begins with Entry Element (ie surname) of the

author in capitals, followed by secondary element (ie. forename) within parenthesis and then the title of the article, after this the title of the periodical (in abbreviated form) its volume number, issue numbers year, months of publication after which, are given the pages of the articles.

The item of bibliographical reference for each entry contains the following information:

a. Name(s) of author(s)

b. Full stop (.)

c. Title of contribution in including subtitles if any

d. Full stop (.)

e. Title of the periodical

f. Full stop (.)

g. Volume number

h. Coma (,)

i. Issue Number

j. Semi colon (;)

k. Year of Publication

l. Coma (,)

m. Month

n. Semi Colon (;)

o. Inclusive pages of articles

SPECIMEN ENTRY

AGRO-INDUSTRIES, COTTON

SRIVASTAVA (Thapar). Cotton Industry. Yogna. 78,3; 1987; 191-194.

EXPLANATION

This article is taken from 'Yogna' which is titled-cotton Industry, written by Thapar Srivastava in the 78 volume of the issue number of the year 1987 on the page 191 to 194 against this entry the serial number is given.

ABSTRACT

The entries in the bibliography contain abstracts giving the essential information about the articles. Attempts have been made to prepare indicative abstract, so that in most of the cases users needs are fulfilled with abstract itself.

INDEX

The index part contains listof the subect headings an author index and title index. The entry has been arranged latter by latter method. Each entry followed by entry number. It is roped that it will be found very useful in consultation of the bibliography.

PART - ONE
INTRODUCTION

INTRODUCTION

AGRO-INDUSTRY IN INDIAN ECONOMY:

The third World countries like India, agriculture and agro-based industries play a vital role in the improvement of rural economy. Agriculture is the key to the global agenda on population, environment, poverty reduction and food and fuel for the rapidly growing population is threatening land and water resources and also the diversity of plant and animal life.

Concept of rural development:

Traditionally for centuries Indian village was a self contained and self-sufficient economic unit. It had hardly any outside contact. But during the last 3½ decades of economic planning whose major thrust has been on rural reconstruction, the Indian rural economic sense has undergone a sikable transformations. Major changes have taken place in various spheres such as land reforms agriculture animal husbandry. Credit, supplies and marketing village industries and fare, services. The first major change in the rural economy has been that it has come in close contact with the outside world. This has been made possible by the connection of rural areas to the urban centres, through a network of roads.

Anosther important step in the development of rural areas has been commercial action of Indian agriculture which is the major activity in the rural areas. Commercialization finds expressions in the fact that the farmer no longer produces for himself or his family alone. Commercialisation has been the result of a number of factors.

During the last 35 years rural Indian has got itself exposed to the waves of urbanizm contact with the towns have increase on a number of quick transport have penetrated the interiors similarly means of communication like radio, transistor and television have brought the remote village area near to the urban town. Increasing contact with the urban areas has facilitated a quick change and b rought the rural areas in the main stream of national life. Such changes have helped in the development of the Indian rural life styles.

Similarly the desire for occupational nobality is a ring of modernization. Villager's desire to do which they did not before. There is another type of development which can be characterised as the explosion of mass consciousness. In the other times, people believed that poverty was God given. People believed in the natural might of landlords to extract rents from the farmers. All this seems to have changed now.

The concept of 'rural development' was born in this contact of agriculture and remain for a long time linked with agricultural development in India. Since the 1970s the concept of rural development has undergone a change and has become more comprehensive. The concept of rural development as given by this world Bank marks such a change. The world Bank defines rural development as a strategy designed to improve the economic and social life of a specific group of people. The rural poor. Rural development involves extending this use fits of development to the poorest among those who seek livelyhood in the rural areas.

Role of banks in employment Generation:

Bank by their lending operations generate employment both directly and indirectly. Direct employment is created when the banks provide financial assistance to their alients for productive purposes. Banks create indirect employment through their assistant units in as much as these units induct growth of numerous impact producing and output consuming types of i ndustrial and agricultural activities.

Loan overdues in Agriculture: suggestions to break the impasse:

In order to improve the poor recovery climate

created by the recent loan waiver, the policy makers may consider giving concessions in refinance rates to these grassroots level institutions which consistently show good recovery performances for 2 to 3 years and those grassroots, level institutions may, in turn, pass on these concessions in the form of lower lending rates to those borrowers whose repayment performance is consistently good. This would help in boosting the morale of the borrowers who have been making regular payments and also give incentives to the Grassroots level institutions for increasing their efforts in improving the recovery problem.

Bonded Migrant Labour in Punjab Agriculture:

Bondage as such is never an anathema to capitalists enterprises. The glaring example is the brick kiln labour in India. Bondage or no bondage is determined by the labour's organised power of resistance on the one hand, and the nature of demand for labour, dictated by the determinate labour process on the other. However, if the report on rural labour from North Bihar, published by the United Nations development programme which mention that 90 percent of the male populatiuon in the age group of 18-35 have migrated from most of the villages from North Bihar is to be taken into account; it is a long way to go before

the chains of bondage of Bihari labour can finally be broken.

Indian Economy: Going the Western way:

India has sought World Bank assistance of US $3 to 4 billion in the next four years of which the country has asked for a quick disturb of US $ 1.5 billion. The RBI has predicted a GDP growth rate of nust three percent in 1990-91 against five percent in the previous year. The Government has not spelt out foreign loan usage. The feeling is one can go easy till the next crisis comes around. It iwll be better for the economy to opt for a slower GDP growth rise and lesser foreign loans with priority for completion of on-going projects.

Challenges facing the Indian Economy:

The central question of sustaining and accelerating further agricultural growth in the Indian economy, however lies in development of, policies which encourage widespread and given India's agro-climatic diversity, by defining diversified growth and to supplement a more appropriate economic environment with policies encouraging much larger. Creation of marketing, processing and commercial infrastructure. It is more diversified, market oriented agriculture which can sprovide the basis for a more dynamic agriculture,

meeting the needs of an expanding home market and for export.

Role of agricultural universities:

The contribution of Agricultural universities in rural development has been a matter of legitimate national pride. The Agricultural universities having strong extension on Education Programmes do have a definite base at the grass-root level to bring about overall development in the rural areas. The Agricultural universities have been concentrating mainly on teaching, research and extension functions. In addition to these functions the agricultural universities in future shall have to take-up added responsibilities of developing other important facets of rural life concerned with the socio-economic terms formation of the rural society.

Training of Agricultural university Teachers in Education Technology - a study:

Who will teach the teachers and how? Suggestion of teachers and supervisors are some indication that at least one exposure in educational technology for a fortnight is a must but it should be done professionally to demonstrate the initiable skills and provide opportundities for adequate practices. Well designed course materials and follow-up in the form of periodic

meetings would reinforce the newly learnt skills. Facilitating quality teaching would require monsitoring and recognition of good teachers by differentiating between good and bad teachers objectively.

Vocationalization of Agricultural Graduate: an integrated approach:

With such a large proportion of the population occupied in agriculture, any steps towards vocationalization in education should lay adequate emphasis on agricultural education as a part of the general education system. Inspite of the contribution of agricultural universities in agricultural development, they have been charged with producing 'non-practical graduates'. The objective of vocationalization i.e. going back to farms by the graduates has not been achieved.

Agricultural Education i n the Changing agricultural Scenario:

Agricultural Education should be oriented to specialization in certain fields of agriculture to meet the diversified needs of various categories of farmers. In future, we may need two categories of extension service. One will be in the nature of specialised edtension service focused on specific high value farm,

enterprises having complex production technologies. The second will be in the nature of general extension service covering a number of farm enterprises, like the present day public extension service. As the modernization increases, there will be a demand for more specialized and qualified, well trained agricultural graduates who can handle new situations and opportunities.

Diamond Jublee Conference of All India Kisan Sabha (AIKS):

Twenty fifth Conference of the All India Kisan Sabha, its Diamond Jublee session was held at Trissur in Kerala from May 17-20, 1997. Ramachandra Pillai, MP, General Secretary All India Kisan Sabha and member of the Polit Bureau of CPI (M), Balasundaram, member of Central Committee CPI (ML) - Liberation on behalf of the All India Peasant Coordination Committee and Paipuzha Vellappan Nair, on behalf of All India Agrarian Kisan Sabha Greeted the conference in person.

Human Resources Development (HRD) in agriculture:

Human Resources Development (HRD) is designed for improving the human performance by increasing human capacity and production for ensuring a better quality of

life to the individuals in and outside the organisation. Agriculture, which is the mainstay of millions of people in India, is still at take off stage due to the lack of requisite knowledge, skills and attitudes to the people concerned in different spheres and at different levels. Human Resource Development, thus have a vital role to play for the development of agriculture.

Khadi Industry in the 21st Century:

Khadi is one of the great gifts of Mahatma Gandhi to the spining Indian nation. The tools of production in spining and weaving too, are constantly upgraded through research and innovation so that the artisans are able to earn more wages. The Khadi weaving public are already agitated over the move of the central government to stop all rebates to Khadi forthwith under these circumstances it is incumbent on our part to be prepared for the worst.

Sustainable economic development:

Sustainable development does not end with the sustainability of just the environment and resource system but requires the sustainability also of economic and social system. Multinationals should not be given a free hand to tamper with our environment and should be

compelled to disclose risk information on activities that would be harmful to people and environment. The lack of stringent environment law may lead to a reversal of the economic progress of one country. In today's environment of rapid economic growth, it is appropriate that protection of environment is accorded due consideration in the devleopment process. The need, therefore is to bring greater awareness for harmonising population, dynamics and socio-economic development and harnessing of natural resources with due care to see that the quality of the environment does not deteriorate.

Economics of Bio-Gas technology in India:

In Rural India, 80% of the energy needs is meet from fuelwood, cow dung and the other organic materials. This reflects that we are cutting down the valuable trees and plants to obtain the fuel wood which leads to deforestation and burning the cow-dung otherwise it can be used as manure for agriculture. All these underline the need for the development of new and renewable sources of energy. The technology for conversion of animal waste into bio-gas, is a well established fact. Bio-gas technology is based on the phenomenon of anacrobic decomposition of organic materials, resulting

in methane production which serves as a source of fuel for cooking, lighting, propelling engines, etc. the residual organic matter as rich manure containing nutrients in a concentrated form can be used for agriculture.

Economics of fishing in Kerala:

India exported fish even in the pre-Independence period. Thus in 1935-36 the country earned ₨ 46 lakhs from the export of fish. In 1939-40 this rose to ₨ 71 lakh. In the year of Independence it was ₨ 1.6 crores and in 1951-52 it was a respectable ₨ 3.2 crore. Kerala seems to have made a good contribution to this export trade. While output is clearly on the decline since 1973 states like Maharashtra, Gujarat and Tamil Nadu have shown rising output. It should be noted that output in the country as a whole has been stagnant around a million tonnes.

Essentials of Economic Planning for 2000 A.D.:

India has gone on with her economic planning for a number of decades now. Population growth must be ably and efficiently controlled in the 1990-2000 decade. Fiscal policy must be reframed to budget within moneys available. Budgets should have to provide hereafter

considerable sums of money with backed up material resources for droughts and damages to public properties of high value. Since the country is reaching the cross-roads for socio-economic welfare of the masses, all parties, where political or a political, must join together on this common plateform of economic rejuvenation.

Economicsof Sericulture Industry:

Japan and China are the two largest producers of silk in the world today. Total world production of mulberry silk is 48,000 tonnes, of which Japan produces 18,000 tonnes, China 15,000 tonnes, South Korea comes next and USSR fourth. India ranks fifth with 2,800 tonnes. Until few years ago, India was fourth South Korea has overtaken and produces twice as much as India. Mulberry plant is a very hard plant. Its roots go to 7 to 8 feet deep. Water requirements is one third that of paddy. It is quick growing and grows to a tree. Mulberry leaves is the feeding material for the silkworm. It is very rich in protein. Life cycle of silk worm is 50 days. After hatching out of egg, the larva starts eating the leaf.

Economics of Soyabean cultivation:

A study made by the agro-economic research

centre, Jabalpur on the economics of soyabean cultivation in Indore district of Madhya Pradesh during 1979-80 revealed that the yellow soyabean was most profitable among the Kharif crops in terms of net returns. It gave a net return of ₨ 770.60/hectare followed by cotton (₨ 604.25) and Ground nut (₨ 593.55). Even the black soyabean was more profitable than jowar, urd, and maize. Although yellow soyabean was comparatively more profitable than the black soyabean in terms of cash input and output was in favour of black soyabean.

BIOTECHNOLOGY for All:

Biotechnology promises to revolutionise the quality of life of all the segments of the society. For scientists, biotechnology has opened new fields for experimentation which could not be conceived earlier. For enterpreneurs, it has created new avenues of investment opportunity. For futomologists, it is a veritable gold mine of possibilities. For policy planners, it is the panacea for many ills nagging the country. And for bankers, it offers wide scope for diversifying their loan portfolio with assured returns.

Bio-tech Application to boost crop output:

The chances of crop failure due to errative

rainfall and infertile soils can be reduced by blending bio-technology with the traditional farming, farm-grown nutrients sources can substitute for purchased fertilisers. This was revealed in or study from the world watch Institute, a Washington based Research Organisation. It has been shown that compose, straw and manure can enhance the contribution of nitrogen fertiliser by 20 to 30 percent even under the semi-arid conditions.

Hazards of Biotechnology: need for regulations:

Biotechnology is the application of scientific and engineering principles to the processing of materials by biological agents. There is a general consensus about some escaping organism surviving and proliferating in the wild causing considerable health and environmental problems. A single catastrope due to an engineered organism is enough to cost a shadow on the technology despite its enormous potential benefits. Naturally, scientists in the field are proceeding cautiously and are trying to devise regulations arriving at minimising the risks. Cooperation among genetic engineers, ecologists, microbiologists, agricultural scientists and policy makers is essential to assess and minimise risks.

Role of National and Cooerative Develoment Corporation (NCDC) in liberalised Economy:

NCDC has been engaged in planning and promoting programmes of production, processing, marketing, storage, export and import of agriculture produce and certain other notified commodities. Keeping sthe government policy in view, NCDC will play an enhanced role in providing financial assistance in the cooperative sector. Agro-processing and marketing would be the major activities of agricultural cooperative during the Ninth Plan period. NCDC stands for National Cooperative Development Corporation.

What ails the handloom Industry:

It is unfortunate that due attention is not paid to the full productive capacity of handlooms. The handloom industry requires working capital finance at low rates of interest as is the case with other industries, small and big. While the major and minor industries and agriculturists have several sources to get funds, the handloom weavers cooperatives are tagged only to NABARD. It would be advisable to reserve items of cloth for production on handlooms to provide a protected market for handlooms products. This will go a long way to improve the lot of the handloom weavers, who have been struggling for survival because of increasing competition from textile mills and powerlooms.

Tea - an export oriented industry:

Tea, an important source of refreshment in the life of amn was discovered in China in the 8th century A.D. Tea industry is one of the earliest industries in the country developed by the Britishers. Being an export oriented industry it occupies 'a crucial position in the national economy of India. Tea industry is one of the most important export oriented industry which gave impetus to the development and growth of national economy. During the period of more than three and half decades the production of tea has gone up more than double. Tea is one of the most important items of Indian export. It was occupying the first position in India's export. India's share of tea in global export declined from $ 452 million in 1980 to $ 195 million in 1985, indicating a decline from 27.7% to 12% during the same period.

Demand for fertilizer in India - a dynamic approach:

Agricultural output can be increased through the expansion of cultivated areas as through an increase in the productivity of existing land. One of the crucial elements in increasing land productivity is fertiliser. In order to stimulate fertiliser consumnption, devleoping countries often provide fertiliser subsidies. It is justified on the ground that it reduces fertiliser

cost of farmers. Though the farmers stand to gain directly from the provision of subsidies, the economy as a whole suffers in the long run.

Species exports and branding concept:

To protect our species from the international market forces of price supply and demand, we should reudce their commodity status and increase the value addition and branded status. With the advent of brands, the role of retail chain stores etc. has assumed crucial significance. Chain stores and super market catering to different segments of society should be persuaded by suitable tie ups to have exclusive show cases and display counters for Indian species in consumer packs. Specific brands should have an exclusive slot in the prestigeous outlets so that consumer can pick up the brand of his choice.

Jute Industry in India:

Jute Industry has now become a sunset industry in India. Capacity utilisation in jute industry sectors has been falling down for the construction of production capacity in jute indsutry separately for hession, sacking and other jute goods, and also at aggregate level, monthly production data have been taken from 'Monthly statistics of production of selected

industries. Capacity utilisation in jute industry was high during fifties, but subsequently it has been falling to lower levels.

Environment asects and Textile exports:

Euroean countries have evolved a number of ecolabels which guarantee the customer about eco-friendliness of the products to distinguish it from other products. These labels provide information and take into account the whole life cycle of the textile product. Examples of these labels are Ecolabel (European), Ecoproof (Germany), Milienkeur (the Netherslands) and Good Environment choice (Sweden). Acquiring ecolabels would be normally profitable to those exporters which are exporting their products to USA, European Union, Canada etc.

Neem-Cynosure of future:

A native of the Indian sub-continent, neem is a moderately large tree with stout and short stem. The tree attains a height of 12-15 m and a grith of 1.8-2.5 m. The bark yields a fibre which is locally utilised for making ropes. Neem, a fibre which is locally utilised for making ropes. Neem, a versatile tree sacrod to the Indians is poised to emerge from the temple countyards

to the business front in view of the recent discovery of its ability to check the multiplication of Human Immune Deficiency Virus (HIVs). A valuable gift of nature, the wonder tree is all set to become the hottest export item of the Third World countries.

Potato-wheat-relay cropping system boosts wheat yield:

Scientists at the Indian Agricultural Research Institute, New Delhi, have found a way of increasing the yield of wheat from potato-wheat relay cropping. Small farm owners, particularly those having less than hectare of land and those with land near cities, stand to benefit from this result as they practice intensive cropping involving grain and vegetable crops.

Wage Data: Sources and methods of collection:

The methods of wage data collection seem to have attracted negligible attention of researchers and the government agencies collecting and publishing such data. The attitude of indifference also gets reflected in the manner the problem of minimum wage determination is handled. Though the labour unions have done commendable work on this issue, they have not been able to get a proper minimum wage determined. Therefore, understanding various sources of wage data and their respective methods

of collection is important to get qualitatively reliable data.

PART - TWO

BIBLIOGRAPHY

AGRO-INDUSTRY, AGROFORESTRY, WOOD

1. MOHAN KUMAR (B). Agroforestry's Potential for meeting Industrial wood requirements. Yojana. 41, 3; 1997, March; 19-22.

Agroforestry connotes land use system where woody trees are deliberately grown with field crops. Agroforestry has tremendous potential to convert India into the 'wood basked' of world implicit in agroforestry and tree farming are two fundamental themes: ecological security and Generalisation of income and employment. Agroforestry extension is particularly weak. At present, neither the Forest Department nor the Agricultural Department considers integrated land use system such as agro-forestry important. Suitable corrective mechanisms are indispensable in this regard. This includes amendment to the restrictive provisions of laws, providing public policy and credit support to the tree farming enterprises evolving improved post harvest processing techniques, removal of hidden subsidies to the wood based industries, strengthening, agroforestry extension and encouraging farmers initiative in rural afforestation and raw materials production for wood based industries.

-, BARLEY MALT, HARYANA

2. RATHEE (CR). Matters in melting pot. Economic Times. 31, 303; 1992, Jan 1; 21:3.

Indian's barley malt industry located mainly at Gurgaon, is beset with problems despite the fact that the union and Haryana governments have announced to give special fillip to agro-based industry. For an industry like barley-malting where barley is the sole ingradient and the end product is used for nutritional foods, beverages and pharmaceutical products. The demand of barley malt is increasing every year.

-, BEEDI WORKERS effect of GIGARETTES MINI, LIBERALISATION

3. SRINIVASULU (K). Impact of liberalisation on Beedi workers. Economic & Political Weekly. 11, 3; 1997, Mar; 515-7.

The production of cheap mine cigarettes by many manufacturers has posed a dilemma to the beedi workers movement. Faced with the threat of a wage cut introduced by beedi barons on the pretext of beedi sales. Going down, they have been forced to wage a battle against the mini cigarette manufacturing units and their workers, thus diluting the workers movement.

-, BETELVINE

4. SRIVASTAVA (Mukesh), SHARMA (Ashwani K) and YADAV (Ramesh). Lucrative Pursuit. Yojana. 40, 7; 1996, Jul; 33-4.

BETELVINE (Piper betle L.) popularly known as 'pan' in India, is a perennial, dioecious, evergreen male creeper Grown over 40,000 hectares in country. Betel leaf plants in cultivated for the sake of its leaves which chewed along with arecanut and lime throughout India. It is credited with many proerties such as digestive, and acts as a sweetever of the breath and as a material to colour the lips red. It is considered an auspicious symbol and is an integral part of ceremonies and gatherings. Typically a smell farm business, its cultivation gives support to a large number of rural people in the form of employment.

-, BEVERAGES, COFFEE

5. DASGUPTA (S). Coffee: What price a brew? India Today. 19, 18; 1994, Sep 16-30; 146.

The sudden increase in coffee prices from around ₨ 90 per kilogram to between ₨ 150 and ₨ 180 has forced many to abandon the brew. Planters and exporters argue that although prices must be brought down, capping exports is not the solution since such a step affects India's image in the international market. Planters

have also demanded a 100-percent FSQ (Free Sale Quote) that will allow them to sell their produce to customers of their choice for maximum profits.

-,-,-, PLANTATION EXPORT

6. PUNJ (KB). Fresh look at the coffee Industry. Yojana. 34, 23; 1990, Dec 16-31; 32.

India's coffee growers are largely dependent on exports for survival, for the domestic market has been stagnant at about sixty thousand tonnes for the last one decade. Between 60 to 70 percent of India's coffee production is exported and this is how the fate of Indian planters is linked with the global market. India is among the countries which have increased their sales in the international market with exports crossing 1.33 lakh tonnes in 1989-90 from around 98,000 tonnes in the preceding year. The domestic demand for coffee in India is around 60,000 tonnes per annum and it is mainly confined to the southern zone. One cannot expect any substantial increase in coffee consumnption in the near future. Therefore, we have to depend on exports.

-,-, TEA, DOMESTIC CONSUMPTION

7. RANJAN MISRA (D). Domestic consumption of tea in India. Indian Economic Journal. 37, 3; 1990, Jan-Mar; 42-7.

The domestic consumption of tea in India has increased from 139 million kg in 1961-62 to 400 million kg in 1985-86, i.e. at 5.1 percent annually. The per capital consumption in this country is very low at about 22 grams per head a year. There is great scope for raising it. The tea drinking habit need to be activated. Demand base for Indian tea should be strengthened in the interests of all sections of the industry, particularly in view of the fact that meanwhile, the export market has begun shrinking for Indian tea because of the intensified competition from other countries.

-,-,-, REVIVAL

8. MISHRA (JP) and ASHWANI (S). Revival of tea industry in weak tea states. Yojana. 38, 23; 1994, Dec 31; 25-8.

The pace of progress achieved by tea industry in terms of area expansion and quality production in the beginning of this century could not be maintained. Himachal Pradesh and Uttar Pradesh are week tea states. Himachal Pradesh has lately strengthened its position and now contributes about 4 percen to India's tea production. It has vast psotential for tea production.

U.P. also had once a number of tea gardens in Munshiari area of Pittoragarh district. Tea production has however, drastically gone down and there is nothing worth the name of tea industry in U.P. Yet the potential fro tea production is large and it can be revited and expanded.

-, BIO-GAS TECHNOLOGY, ECONOMICS

9. MANJAPPA (HD). Economics of Bio-Gas Technology in India. Indian Economic Journal. 37, 4; 1990, Apl-Je; 100-108.

In Rural India, 80% of the energy needs is met from fuel wood, cow dung and other organic materials. This reflects that we are cutting down the valuable tree and plants to obtain the fuel wood which leads to deforestation and burning the cow dung otherwise it can be used as mannure for agriculture. All these underline the need for the development of new and renewable sources of energy. The technology for conversion of animal waste into bio-gas, is a well established fact, Biogas technology is based on the phenomenon of anaerobic decomposition of organic materials, resulting in methane, production which serves as a source of fuel for cooking, lighting, propelling engines etc. the residual organic matter as rich manure containing

nutrients in a concentrated form can be used for agriculture.

-, BIOTECHNOLOGY effect on CROP OUTPUT

10. JAIN (NS). Bio-tech application to Boost Crop output. Economic Trends. 16, 6; 1987, Mar 16; 11-3.

The chances of crop failure due to erratic rainfall and infertile soils can be reduced by blending bio-technology with the traditional farming. Farm-grown nutriends sources can substitute for purchased fertilisers. This was revealed in a study from the World watch Institute, a Washington based Research organisation. It has been shown that compost, straw and manure can enhance the contribution of nitrogen fertilisers by 20 to 30 percent even under the semi-arid conditions.

-,-, HAZARDS

11. ASOKAN (SR). Hazards in biotechnology: need for regulations. Financial Express. 17, 234; 1991, Oct 18; 6:3.

Biotechnology is the application of scientific and engineering principles to the processing of materials by biological agents. There is a general consensus about some escaping organism surviving and

proliferating in the wild causing considerable health and environmental problems. A single catastrope due to an engineered organism is enough to cast a shadow on the technology despite its enormous potential benefits. Naturally, scientists in the field are proceeding cautiously and are trying to devise regulations aiming at minimising the risks. Cooperation among genetic engineers, ecologists, microbiologists, agricultural scientists and policy makers is essential to assess and minimise risks.

-, CEREALS, GRAINS PRODUCTION role of MODERN TECHNIQUES
12. JOSHI (Navin Chandra). Consolidation of food grains production. Yojana. 32, 17; 1988, Sep 16-30; 9-10.

The strategy for increased production is based on increased use of fertilisers and improved seeds, better management of weeds, control of pests and diseases, harnessing of water resources and incentives to farmers. Now the food grain production strategy has ben fine-tuned for different agro-climatic zones. It includes increased fertilizer use by 20 kg of nutriends per hectare, use of improved high-yielding variety seeds, better management of weeds and timely control of pests and disease, harnesing of ground water through tubewells, completing on-farm development works in

command areas and efficient use of stored water, bonus and incentive for procurement and production of food grains, and increased flow of short term and long term credit.

-,-, PULSES, RAJMASH, NUTRITIVE VALUE

13. KATIYAR (RP). 'Rajmash' a valuable pulse crop for hills. Indian farming. 36, 1; 1986, Apr; 22-4.

'Rajmash' is grown in our country between an elevation of 900 and 2,500 metros above the mean sea level. It is highly valued by the consumers who hare prepared to pay more for it than for the pulses grown in the plains. Rajmash is a popular choice with the farmers for intercropping with maize. In between two rows of maize one row of rajmash is planted. Rajmash is a cheep and valuable source of protein, calcium, iron and vitamins and ranks among the most vegetables in calories content.

-,-, RICE CROP PRODUCTION CRISIS

14. BADAR (AI). Tackling world rice crisis. Yojana. 33, 3; 1989, Feb 16-28; 11-4.

These days rice is under heavy odds. Due to the bad crop in the major producing countries, prices of rice are rising at a very faster rate. Due to low production of rice in many major producing nations

Bangladesh, Thailand, China, Pakistan and India), the import demand from major consuming countries is increasing. India, Indonesia and Philippines are demanding more rice to meet their domestic needs and this situation has increased the volume of pressures on supplies. In order to avoid this situation, India has made a barter trade (counter trade) with Burma to have 1 lakh tones rice and also asking Thailand to supply above lakh tonnes rice below the market prices.

-,-, RICE INDIA

15. RAI (B). Rice for export. Kisan World. 25, 5; 1997, May; 23-4.

Basmati rice is one such item which finds a place of prestige in our export list. Traditionally, this superfine, soft textured aromatic rice has been exported to Middle East countries (like Kuwait, Saudi Arabia, United Arab Emirates and to USSR). But in a changing world trade scenario and with the economic liberalization process now on, there are good prospects of exporting this rice to America, England, France, Canada and North African countries as well. In the last four years, the export figure has gone up from 2.92 lakh tonnes in 1990-91 to 3.88 lakh tonnes during 1992-93.

-,-,-, PRODUCTION

16. KHANNA (SS) and GUPTA (MP). How can we raise rice production. Yojana. 33, 3; 1989, Feb 16-28; 4-9.

In India, the rice crop accounts for the largest area under only single crop. Of the total consumption of cereals, roughly one-half is represented by rice, about one-fourth by wheat and the remaining one-fourth by millets. The inception of high yielding varieties era in the country negotiated the changes in the crop production technology and high yielding varieties ushered in Green revolution and revolutiuonised the agriculture in the country. Factors affecting the production and productivity of rice in these States are numerous. The main reasons for low yields are; poor level of adoption of production technology, less input use, dependence of rice crop on monsoon and poor infrastructural facilities.

-,-,-,- CONSTRAINTS

17. SHANMUGAM (TR) and RAMASAMY (C). Socio-economic constraints in rice production. Productivity. 37, 4; 1997, Jan-Mar; 698-703.

Socio-economic constraints do not allow the farmers to adopt the full package of practices. People in traditional rice growing areas suffer most from both

environmental and socio-economic constraints. Every year they face natural calamities like flood, drought etc. Improving the terms of trade in favour of farmers will help boost rice yields. Inconsistent and untimely power supply is another dimension of the problem. The constraint with respect to the availability of quality seeds of recommended varieties persists in all the rice growing environments. The present level of support and procurement prices needs to be renumerative in order to induce stepped up rice production.

-,-,-,-, PUNJAB

18. SIDHU (GS). Rice revolution in Punjab. Yojana. 33, 19; 1989, Oct 16-31; 6, 7&9.

Punjab is traditionally not a rice growing state of India. Rice revolution in Punjab is due to the numerous factors including research efforts of scientists, government policies and farmers efforts have jointly played a pivotal role in ushering rice revolution in Punjab. The important factors are: development of semidwarf varieties, improved production technology, chemical weed control, plant protection measures, increased use of farm machinery, government policies, farmer's contribution, ecological impact, research priorities etc.

-,-, WINTER MAIZE CULTIVATION, PUNJAB

19. NARANG (RS). Cultivation of winter maize in Punjab. Indian farming. 34, 8; 1984, Nov; 9-10.

The growing of winter maize fits very well into the existing cropping systems of Punjab. It can follow in sequence with any of the kharif crops of the area namely, maize (grain), maize (fodder), bajra or jowar fodder, pulse, oilseed or paddy. The development of agro-techniques of maize cultivation during the winters reveal that it does well when planted in October last week and first fortnight of November, in rows at spacing of 50 cm between the rows and 20 cm between the plants.

-, COCOA PLANTATION, INDIA

20. RAO (S). Cocoa in India. Mysore Economic Review. 69, 2; 1984, Feb; 6-9.

Cocoa is a luxury item. It is mainly used in chocolate and confectionaries. It some countries it is used as a beverege. Rich Western countries, Japan, US & Canada are the major consumers Cocoa prices fluctuate cyclically. Countries depending on Cocoa exports are put to a serious disadvantage by the fall in prices. Most of the producing countries are low and middle income users. World production has increased continuously excet in 78-79 from 13,31,000 tonnes in

76-77 to 15,03,000 tonnes in 77-78 declined to 14,95,000 tonnes in 78-79 and rose thereafter to 16,57,000 tonnes in 79-80; 16,57,000 tonnes in 80-81 and 16,80,000 tonnes in 81-82.

-, COCONUT, FIBRE COIR PROBLEMS

21. CHIDAMBARAM (K), PUNITHAVATHI (R) and THERMOZHI (G). Problems of coconut fibre industry a case study. Yojana. 35, 8; 1991, May 15; 24-5.

Coir fibre industry is a traditional industry in India which has taken deep roots in the economic structure of the rural areas in the coastal states. Coconut fibre industry is located in the coconut belts of Kerala, Tamil Nadu and other coastal states. This agro-based industry offers a wide scope for utilising the indigenous skill and raw materials. Fibre pith is a waste product of the coconut fibre industry. It constitutes as much as 70% of the husk. Disposal of pith is a serious problem of the entrepreneurs. Entrepreneurs have to purchase land for disposing the pith. To solve the problem of disposal of psitch, government should popularise the use of pith, as a fertilizer, water retainer and fuel.

-, COFFEE, EXPORTS, PROBLEMS, PROSPECTS

22. SUNDARAM SATYA (I). Coffee industry: Problems and prospects. Yojana. 34, 21; 1990, Nov 16-30; 29-30.

There is the problem of uncertainty on the export front as world coffee prices fluctuate frequently. In 1988, ICO had decided to accord quotas on the basis of arabica and robusta crop production. In that year, India had been able to get 1.65 percent of the global quotas for both the varieties against 1.41 percent in 1987. The coffee industry is facing fall in export prices. In the first nine months of 1989-90 (April-Dec). India exported a record 99,633 tonnes of coffee at the rate of ₨ 30,000 per tonne. In the corresponding period in 1988-89, it was 71,692 tonnes at the rate of ₨ 33,000. Government has intiated measures from time to time to boost coffee exports.

-, COIR (COCONUT FIBRE) effect on DEVELOPMENT

23. ISABELLA (SR) and KRISHNAMOORTHY (S). Rural industrialisation the case study of coir industry. Journal of Rural Development. 12, 5; 1993, Sep; 523-31.

Agro-based industries provide nexus in promoting integrated development of agriculdture and industry and in transforming a stagnant rural economy into a dynamic and buoyant industrial economy. Rural industries and

agro-based industries promote local entrepreneurship, generate employment and also check concentration of economic power through diffusion of ownership of means of production. Present status of coir production shows that at the world level, 90 percent of coir production is concentrated in India and Sri Lanka. Export of coir and coir products from India consists of coir yarn, coir mats, coir mattings, rugs and carpets, coir fibre, coir ropes, curled coir and rubberised coir of which coir yarn mats, mattings, rugs and carpets account for about 99 percent of the exports.

--, MECHANIZATION

24. PILLAI (VB). Mechanization-need of the hour. Yojana. 40, 7; 1996, Jul; 38-9.

Coir industry is one of the important agro-based export-oriented traditional cottage isndustries in India. Coconut husk is the basic raw material for the industry. The industry assumes greater significance for the reason that it provides direct employment to about 4.5 lakh people at different stages of operation. Besides nearly 5 lakh people spread over the coastal belt of the country earn their livelihood by marketing coir and coir products.

-, COMMODITIES, PRICES, FACTORS

25. ADUR (KG). Price behaviour of Agricultural Commodities. Southern Economist. 24, 2; 1985, May 15; 9-12.

Prices of agricultural produce are impsortant for farmers as these determine their incomes. Buyers are no less affected by these prices, be they cons umers, industries or exporters. As incentives for raising production and a rational allocation of resources, as also for acquiring marketable surplus, there is the social interest involved in these prices. It is therefore, of considerable significance that we have such a level and structure of prices that satisfy all these varied aspects of the economy.

-, COTTON PRODUCTION

26. GURUMOORTHY (TR). Cotton production needs to be stepped up. Financial Express. 19, 213; 1993, Sep 29; 7:1.

Cotton is a cash crop. The prosperity and survival of cotton textile depends upon the availability of cotton in right quantity, right quality, right price and at right time. Development of cotton textiles requires increase in cotton production. In the year 1988-89 the cotton production is our country was 106 lakh bales and increased to 135.50 lakh bales in 1989-90. In the year 1990-91cotton production

deceased to 117 labels. It is due to insufficient rains in major cotton growing areas. Government has introduced intensive cotton development programme for improving the production and productivity of all types of cotton. For increasing cotton production the farmers should use certified seeds and high yielding varieties. Farmers should adopt pest control measures in time. Otherwise productivity will get down.

-,-,-, INTERNATIONAL

27. SINGH (Anand K). Cotton-the white gold. Kisan World. 25, 5; 1997, May; 57-8.

Cotton is the oldest of all the fibres used by human beings and it forms one of the important commercial crops playing a key role in the economy of the world. It accounts for approximately 50 percent of the global textile market. Cotton is produced in about 75 countries around the world. The important producing countries are USSR, China, USA, India, Brazil, Pakistan, Egypt, Mexico, Sudan, Peru and Turkey. These countries account for nearly 85 percent of the total cotton production in the world.

-,-,-, effect on SPINNING MILLS, ORISSA

28. SRIVASTAVA (YP). Steps to raise cotton output. Economic Trends. 12, 3; 1983, Feb 1; 13-4.

The Orissa State Government has decided to take a number of steps to increase cotton production within the state to meet the demands of the spinning mills. Herein, special stress is being laid on spinning mill areas, in each of which a five member unit have been formed for the expansion of the current programme. Additionally, cotton seeds have been provided to farmers at 50 percent subsidy. The state spent ₨ 3.67 lakhs on mill kit exhibition in about 1,020 plots of land to teach farmers the scientific way of cultivating cotton, besides, spending ₨ 80,000 on field exhibition in conjunction with farmers in about 100 places.

-,-, RESEARCH and DEVELOPMENT, SEMINAR

29. JOGINDER (PK). Cotton Research and Development. University News. 27, 33; 1989, Aug; 15.

The Cotton Scientists of Tamil Nadu recently met at the Tamil Nadu Agricultural University (TNAU) to deliberate over the current issues and research challenges of cotton. The cotton scientists from all lead centres and research stations of Tamil Nadu Agricultural University and Cotton Scientists of ICAR

Cotton Research station, Coimbatore participated in the deliberations. Based on two days, discussions, specific action plans and appropriate research strategies for each region will be prepared and implemented.

-,-, SEED, VARIETIES

30. KALSY (HS), GILL (JS) and GARG (HR). Grow quality seed for good cotton crop. Indian farming. 37, 12; 1988, Mar; 19-20.

Seed is the most important basic input, which greatly influences the ultimate yield of the crop per unti area. This calls for special attention on the part of the farmers for making timely arrangements of quality seed. At present four varieties of American cotton namely 'F414', 'LH372', 'F286' are recommended for timely sowing, that is from mid-May to mid-June in Punjab. The quality of cotton seed can be greatly improved with acid delinting of the seed.

-,-, TEXTILES, PROSPECTS

31. HATTI (Iranna). Cotton textile industry in India. Yojana. 34, 9; 1990, May 16-31; 29-31.

The cotton textile industry is the oldest and the biggest of all major industries in Indian economy. The story of Indian weaving goes back into antiquity.

Modern textile industry has been built up on entirely new edifice in the form of large scale industry on the pattern adopted from modern Europe. The development of textile industry as a whole is a change-over from the traditional cottage indsutry pattern of production to organised and mechanised methods of production. This change is due to political status of the country.

-,-, YARN effect of PRICES

32. ROBIN (AB). Cotton yarn. India Today. 19, 17; 1994, Sep 1-15; 126.

High yarn prices have also hit the weavers, particularly in the handloom sector and they have protested against rising costs. So the government decided to strike at the cotton yarn exporters. To maintain a balance between demand and supply of raw cotton and cotton yarn, and check local prices of the two items, the government fixes a ceiling (100 million kg in 1994) on yarn exports each year). Matters came to a head when domestic prices of cotton yarn began to rise in response to rise in prices of raw cotton, both in the domestic and international markets.

-, CROPS, BAJRA

33. PODDAR (Rajendra), HEMALATHA (S) and BASAVARAJA (H). Crops deserving more attention. Yojana. 40, 7; 1996, Jul; 41-2.

Bajra is one of the major coarse gram crops of tropical climate that is being widely grown in Asia and Africa. The important bajra growing countries in the world are India, China, Nigeria, Arabia, Pakistan etc. There is a need for continuous research on the nutritive and medicinal values of bajra as it is reported to be superior to some other cereals in this regard. For example, research can be initiated to assess the value of bajra in preparation of bear and other beverages.

-,-,-, DISEASE IMMUNIZATION

34. HARINARAYANA (G). Down with downy mildew of Bajra. Indian farming. 32, 1; 1982, Apr; 25-6.

Downy mildew is an endemic disease that virtually threatened the very existence of bajra in the early seventies. This challenge was successfully met by plant scientists who perfected a multiple strategy to combat the menace of downy mildew. Downy mildew is there in the soil, in the tubbles, in the fodder and in the off season bajra plants. It would pay to keep the

downy mildew of bajra low through the adoption of resistant. Hybrids, and varieties, rotation and cultivars, mixtures, seeding in time, roguing thining and transplanting, minimum fertilization and use of systematic fungicides in order to prevent the disease outbreak.

-,-,-, SALINE SOIL

35. DUA (RP). Growing bajra or saline soijls. Indian farming. 39, 1; 1989, Apr; 21-2.

Research work conducted at the CSSR Institute, Karnal has shown that bajra has relatively better tolerance to salinity during kharif than other crops such as maize and jowar. The testing of various hybrids and populations continuously for 2-3 years under normal and saline environment at the institute's farms has led to the identification of certain hybrids and populations which will be most suitable for growing in saline soils.

-,-,-, COTTON SEED

36. KAKSHMAN (DP). Good seed for cotton crop. Yojana. 32, 23; 1992, Oct 30; 12-5.

Cotton is a cash crop. There are certain impsortant external physical characteristics, which

give an idea about the quality of good seed. The seed should be bold and healthy looking and free from any disease infection and insect damage. For inceasing cotton production the farmers should use certified seeds and high yielding varieties. Farmers should select the good variety of seed so that the production should be high.

-,-, HYDROPONICS

37. SENGAR (RS) and PANDAY (M). Technology for crop cultivation without soil. Yojana. 40, 7; 1996, Jul; 14-5.

HYDROPONICS is a technology for crop cultivation without soil in the presence of nutrient solutions. Mostly hydroponic systems are operated in a green house, polyhouse, net house or other suitably covered spaces to provide control over environment factors such as high, temperature, humidity etc. and for better control of diseases and pests and prtoect crops against uncertainties of weather such as rain, wind, excessive heat or cold etc. Liquid hydroponic system can be exploited for production of off-season vegetables on commercial level in cosmopolitan cities and growing township or for quality flower production for export.

-,-, PRODUCTIVITY, SUSTAINABILITY

38. SURINDER (Sud). Crop productivity and sustainability. Yojana. 41, 2; 1997, Feb; 5&8.

The Second International crop Science Congress, held in New Delhi from Nov. 17 to 24, 1996, has displayed the international scientific community's will to solve mankind's basic problem of hunger and lay the foundation for a vibrant, yet ecologically sustainable, agriculture to meet future needs. The theme of the congress, "Crop productivity and sustainability - shaping the future" - was highly appropriate and topical. The importance attached to this congress by the government can be gauged from the fact that it was inaugurated by the President, Dr. Shankar Dayal Sharma and a special postage stamp and a new ₨ 5 coin were brought out to commemorate it.

-,-, SOYABEAN, CULTIVATION, ECONOMICS

39. MANJHI (Shankar). Economics of Soyabean cultivation. Indian farming. 34, 9; 1984, Dec; 11-5.

A study made by the agro-economic research centre, Jabalpur on the economics of soyabean cultivation in Indore district of Madhya Pradesh during 1979-80 revealed that the yellow soyabean was most profitable among the kharif crops in terms of net

returns. It gave a net reuturn of ₨ 770.60/hectare followed by cotton (₨ 604.25) and groundnut (₨ 593.55). Even the black soyabean was more profitable than jowar, urd, and maize. Although yellow soyabean was comparatively more profitable than the black soyabean in terms of net return, yet the cost benefit ratio in terms of cash inpsut and output was in favour of black soyabean.

-,-,-, NUTRITIVE VALUE, PROTEIN

40. CHHABRA (NN). Soyabean: high-protein "wonder-grain". Kurukshetra. 43, 3; 1994, Dec; 32-3.

A neglected bean until recently in this country has suddenly caught the fancy of agricultural scientists and food nutritionists, agricultural planners and farmers. It has proved as a supplementary food in our daily diet, it being so rich a source of high quality protein-lysine (43%) and soi-content (20%). These protein contain all the essential eight amino-acids vital to human diet. Soyabean, therefore, is often referred to as a "vegetarian meat" for the non-meat eaters. When added to other foods, soya-protein content of tehse foods increases and claimed to be a "wonder-grain" of 20th century. It beans are generally garden yellow and beans of some of its varieties are also black in coloour.

-,-,-, PROFITS

41. MAHENDRAN (S), KULANDAIVELU (R) and AYYAMPERUMAL (A). Soyabean - profitable inter crops in cane cultivation. Kisan World. 23, 4; 1996, Apr; 18.

Sugarcane, a long duration, wide-spread crop, taken 90-100 days to cover the ground area by its canopy. During this initial slow growth period, it occupies hardly 50 percent of the total area. In order to utilize the space and time available in the initial stages of the cane growth, inter cropping of one row of soyabean has been recommended. This system of raising intercrop of soyabean in the middle of the ridge, resulted in some field management problems such as hindrance to hand hocking and weeding, partial earthing up on 60th day etc. Further the interc ropped soyabean recorded an yield level of 875 kg per hectare.

-,-,-, SEED

42. PUSHPENDRA and HARIHAR RAM. Seed production technology for soyabean. Indian farming. 39, 2; 1989, May; 17-8.

While selecting the land for seed production, it should be borne in mind that as far as possible only the certified seed of the same variety was grown in the previous season. Soyabean is a self pollinated crop, but it plants of two different varieties are grown

near, then cross pollination may take place. This way the variety may become impure for which we are producing the seed. To avoid this problem, it is essential to maintain a distance of 3 m between the varieties.

-,-, WHEAT PRODUCTIUON

43. KHANNA (SS) and GUPTA (MP). Strategy for enhancing wheat production. Yojana. 33, 9; 1989, May 16-31; 7-11 & 17.

Wheat is the most impsortant Rabi crop in the country. It occupies 50 percent of the area under rabi food grain crops and contributes 70 to 72 percent of total food grain production in the rabi-season. India has made rapid progress in wheat production during the past two decades, which has enabled the country to be self-sufficient in food grains. Wheat production has increased by nearly 4 tonnes from 12.26 million tonnes in 1964-65 to 46.89 million tonnes during 1985-86. Both manures and chemical fertilisers play important roles in wheat cultivation. Use of manure improves the general physical condition of the soil particularly the capacity to hold water and nutrients.

-, DAIRY FARMING, OPERATION FLOD

44. SHARMA (KP) and BHATELE (Sucheta). Dairy farming and operational flood. Yojana. 32, 19; 1988, Oct 16-31; 22-3.

Dairying is usually considered to be a profitable complementary enterprise in agricultural and constitutes an impsortant activity for accelerating the rural economy of the country. Milk production of the country has risen from 17-41 million tonnes in 1951 to 38.7 million stonnes in 1985. The daily per capital availability of milk during 1985-86 has been reported to be of the order of 147 grams as against the estimated nutritional requirements of 210 gms, showing, thereby, the required production of 60 million tonnes of milk in 1981 and 67 million tonnes in 1985 in the country. Consequently the operation Flood-I was launched in 1970 with the objective of setting up AMUL like organisation in several states, linking rural milk procurement points with urban demand centres, so as to stimulate its production and marketing.

-, DEVELOPMENT

45. BHALLA (GS) and GURMAIL (S). Recent developments in Indian Agriculture. Economic and Political Weekly. 13; 1997, Mar 29-Apr 4; A-2-18.

Agriculture growth had become regionally much

more diversified. The period 1980-83 to 1992-95 was also characterised by important croping pattern changes away from coarse cereals towards rice and wheat cultivation on the one hand and towards oilseeds on the other. Finally, the 1980s also witnessed a widespread acceleration in per male agricultural worker productivity in many Indian states. If sustained, high labour productivity growth is likely not only to result in hsigher wages but also to trigger growth in the non-agricultural sector.

-, DRY FRUITS CASHEW, EXPSORT, FOREIGN EXCHANGE

46. THAKER (DP). Cashew kernal exports: below expectations. Economic Times. 32, 254; 1992, Nov 14; 13:3.

The export of cashew kernel has exhibited a divergent trend during 1991-92. Even as earnings has scaled a new high, the export in terms of quantity has declined substantially as compared with that of the previous year. Exports dropped to 44,694 stonnes in 1991-92 from 50,101 tonnes in the previous year. The spurt in export earnings followed the devaluation of the rupee vis-a-vis the U.S. dollar. India exported 60,600 tonnes way back in 1970-71 but after two decades, the export is still hovering below 50,000 tonnes. The absence of desired growth in exports in

mainly due to inadequate supply of indigenous raw cashewnut and mounting domestic consumption.

-, DRYFRUITS CASHEW PLANTATION PROBLEMS, PROSPECTS

47. VIGNESHWARA (V). Cashew: Problems and prospects. Yojana. 34, 11; 1990, Jun 16-30; 28-30.

Cashew is a perenial fruit tree grown in the tropical and sub-tropical tracts. The cashew tree, a nature of south-America was introduced into India by the Portugese who planted the just samplings in the West coast during the 16th century to check soil erosion or as a soil binder and afforestation crop. This crop has now become an important dollar earning crop of our country. Even though our exports in terms of value have increased, there has been a hsuge fall in the volume of exports especially after the 80's. Once we were the major suppliers of cashew kernals for the world market but now our position is shaking.

-, DEPARTMENT HUMAN RESOURCE DEVELOPMENT in AGRICULTURE

48. SIVA NARAYANA RAO (K). Human resources development in agriculture. Kurukshetra. 45, 10; 1997, Jul; 12-4.

Human resources development (HRD) is designed for improving the human performance by increasing human capacity and productivity for ensuring a better quality

of life to the individuals in and outside the organisation. Agriculture, which is the mainstay of millions of people in India, is still at take-off stage due to the lack of requisite knowledge, skills and attitudes to the people concerned in different spheres and at different levels. Human resources development, thus has a vital role to play for the development of agriculture.

-,-, CASHEW PRODUCTIVITY and EXPORT

49. BANAKAR (Basavaraj) and MURTHY (HG). Cashew production and export: a review. Yojana. 38, 20; 1994, Nov 15; 23.

Among the important plantation crops, cashew is an important tropical tree crop. The main producers in the world are Brazil, India, Mozambique and Tanzania. Cashew is the second largest foreign exchange earning plantation crop, next only to tea in India. During 1992-93, it earned ₨ 736.64 crore by way of foreign exchange. Besides, the cashew processing industry provides direct employment to about 2.8 lakh persons. In order to boost export, it is essential to increase production and productivity.

-,-,-, LOW

50. SATYA SUNDARAM (I). Low productivity hits cashew. Financial Express. 18, 271; 1992, Nov 28; 7:5.

Cashew, a commercially important crop was first introduced in India by the Portuguese primarily for aresting soil erosion. A major problem facing the cashew is low productivity. The average productivity in India is around 634 kg per hectare. India has been exporting cashew to a number of countries like USA, Netherlands, Singapore, Soviet Russia, Japan, UK, Australia, UAE, Spain and Germany. Top priority should be given to a comprehensive pest management practices to protect cashew against the borer and sap sucking insects. Currently, as much as 30 percent loss in yield is attributed to pests. Cashew deserves every encouragement particularly because of its labour intensive and export-oriented nature.

-, ECODEVELOPMENT

51. JAHAGIRDAR (MP). Ecodevelopment. Journal of Rural Development. 12, 2; 1993, Mar; 249-53.

Ecodevelopment means an ecologically sound development. Ecologically 'sound' means achieving harmony instead of creating conflict between man and nature or, more precisely, between society and its

physical environment. The harmony emphasis a kind of non-destructive relation within the limits of economic necessities and technological possibilities. Realisation of necessity out of a situation of increasing poverty and environment degradation, not only in the developing countries but also in the affluent regions has led to the formulation of ecodevelopment as an alternative to the development which is currently under usage.

-, EDUCATION, AGRICULTURE

52. SANKARAN (S) and SUBBIAN (P). Agriculture Education in the Changing Agricultural Scenario. University News. 34, 14; 1996, Apr 1; 1-9.

Agricultural education should be oriented to specialization in certain fields of agriculture to meet the diversified needs of various categories of farmers. In future, we may need two categories of extension service. One will be in the nature of specialized extension service focused on specific high value farm enterprises having complex production technologies. The second will be in the nature of General extension service covering a number of farm enterprises, like the present day public extension service. As the modernization increases, there will be a demand for

more specialized and qualified, well trained agricultural graduates who can handle new situations and opportunities.

-,-,-, GRADUATES, VOCALIZATION

53. ARYA (S). Vocationalization of Agricultural Graduate: an integrated approach. University News. 34, 4; 1996, Jan 22; 1-3.

With such a large proportion of the population occupied in agriculture, any steps towards vocationalization in education should lay adequate emphasis on agricultural education as a part of the general education system. Inspite of the contribution of agricultural universities in agriculture development they have been charged with producing 'non-practical graduates'. The objective of vocationalization i.e. going back to farms by the graduates has not been achieved.

-,-,-, role of UNIVERSITY

54. SHARMA (RK). Role of agricultural universities. Yojana. 33, 9; 1989, May 16-31; 14-6.

The contribution of agricultural universities in rural development has been a matter of legitimate national pride. The The Agricultural Universities

having strong extension education programmes do have a definite base at the grass-root level to bring about overall development in the rural areas. The agricultural universities have been concentrating mainly on teaching, research and extension functions. In addition to these functions the agricultural universities in future shall have to take up added responsibilities of developing other important facets of rural life concerned with the socio-economic transformation of the rural society.

-,-,-, UNIVERSITY TEACHERS, TRAINING, EDUCATION TECHNOLOGY

55. PRAKASH (D) and BIRENDRA KUMAR. Training of Agricultural University Teachers in Educational Technology - a study. University News. 34, 5; 1996, Jan 29; 9-12 & 15.

Who will teach the teachers and how suggestions of teachers and supervisors are some indication that at least one exposure in educational technology for a fortnight is a must but it should be done professionally to demonstrate the imitable skills and provide opportunities for adequate practices. Well designed course materials and follow-up in the form of periodic meetings would reinforce the newly learnt

skills. Facilitating quality teaching would require monitoring and recognition of good teachers by differentiating between good and bad teachers objectively.

-,-, and TRAINING, BIOTECHNOLOGY of BIOFERTILISERS, RICE

56. SUBHASH (KC). Biotechnology of Biofertilizers. University News. 27, 48; 1989, Nov 27; 18.

Training course on Biotechnology of biofertilizers for rice was recently inaugurated at the Tamil Nadu Agricudltural University (TNAU). The training was given on nitrogen fixing biological systems of Azolla and free living blue green algae. The course was designed to train middle level research workers who have background in the biological nitrogen fixation.

-, effect of BIOTECHNOLOGY

57. SURYAKUMAR (PVS). Biotechnology for all. Yojana. 40, 4; 1996, Apri; 33-5.

Biotechnology promises to revolutionise the quality of life of all the segments of the society. For scientists, Biotechnology has opened new fields for experimentation which could not be conceived earlier. For entrepreneurs, it has created new avenues of

investment opportunities. For futurologists it is a veritable gold mine of possibilities. For policy planners, it is the panacea for many ills nagging the country. And for bankers, it offers wide scope for diversifying their loan portfolio with assured returns.

-, effect of LAND REFORMS

58. KRISHNA RAO (YV). Land reforms and the changing agrarian scenario. Kurukshetra. 44, 1; 1995, Oct; 71-4.

Refuting the contention that land reforms have no relevance in the liberalised, free market economy, the author avers that the relevance has, infact, increased more than ever before. Stressing the need for a responsive administration for the effective implementation of land reforms, he maintains, that the determined struggles for the poor and the landless would set the face of their implementation. Warning against the pressure of the corporate sector on the government for further concession, he calls for the empowerment of the poor, the depressed and the downtrodden for the radical implementation of land reforms.

-, effect of WORLD TRADE ORGANISATION

59. VANDANA (Shiva). Corporation of Indian Agriculture and response of farmers movement. Mainstream. 34, 21; 1996, April 27; 17-9.

Under the new corporate rule, the agencies of the government of India are, on the one hand becoming subject to the United States and international policy set by WTO. On the other hand, sthey are becoming active promoters of the United States agrobusiness and active destroyers of the livelihood of small peasants.

-, ENVIRONMENT AUDITING

60. SOMNATH (Ghosh). Environmental auditing: an emerging concept. Yojana. 41, 3; 1997, Mar; 25 & 28.

Environment auditing may be defined as the process of examining the records and physical production facilities of an industrial undertaking to identify the extent of compliance of environmental laws and regulations by that undertaking, to verify the efficiency of the system established sto ensure compliance, to underline the risks and pollution hazards. To be successful the environmental audit should be flexible enough to suit the specific needs of a manufacturing unit. The environmental audit report

should also be descriptive in nature. Expression of judgement in the report should be avoided as far as possible.

-, FARM EXPORT

61. SUNDRIYAL (GB). Plant to boost farm exports. Economic trends. 16, 1; 1987, Jan 1; 5-7.

Federation of Indian Exports Organisations has proposed a plan to create an additional ₨ 1000 crores exports of agricultural products during the next two years. According to the proposal if implemented, would raise the export from ₨ 2,400 crore to ₨ 3,400 crores. During the current year, the farm products exports was likely to be higher as a result of the 10 percent cash compensatory support given to the exports of all oil mills this year and various incentives to other products.

-, FARM WORKERS WAGES, TAMIL NADU

62. RADHAKRISHNA (R). Exploitation of farm workers: an overview. Kurukshetra. 45, 10; 1997, Jul; 17.

A survey by the International Labour Organisation (ILO) in 1977-78 says 39 percent of the rural farm workers in India were in casual employment and their percentage has increased since. Moreover,

their incomes and standard of living have been deteriorating progressively. In Thanjavur district of Tamil Nadu, which accounts for 40 percent of the State's rice yield, the minimum annual expenditure required to maintain a family of four is ₨ 2000. But farm workers here find work for only 150 days in a year and get an annual income of ₨ 1,200. No wonder, they remain in a state of perpetual indebtedness.

-, FARMING, DRYLAND

63. SUBRAMANYA (KN). Breakthrough in Dryland farming. Sosuthern Economsit. 29, 5; 1990, Jul 1; 1-4.

Today, the dryland farming accounts for 73 percent of the cultivated area in India but it codntributes only 42 percent of the total foodgrains production. As such, it needs to be accorded a high priority. Now time has come when a National Dryland Farming Organisation should be set up to icnrease the productivity and income levels of millions of farmers dependent on rainfed agriculture. Since dryland farming derives water only through rains, soil is the base through which water is taken up by plants.

-, FERTILISERS, COST BUDGET

64. THIMMAIAH (G). Union Budget: Pro-Agricultural and pro-poor. Yojana. 40, 9; 1996, Sep; 7-9.

The United Front government's budget has been given the most appropriate policy thrust to agricultural development. This is again consistent with the need to revive the agricultural economy which suffered a setback in 1995-96. Withdrawl of subsidy on potassic and phosphatic fertilizers adversely affected the agricultural production in general and food grains production in particular. Therefore, agricultural sector was crying for appropriate policies to rectify the past policy lapses. This is attempted in United Front government's budget for 1996-97.

-,-, MARKETING

65. VASWANI (LK). Fertiliser marketing-losing priorities. Economic Times. 32, 153; 1992, Aug 6; 11:1

The Indian fertiliser marketing system known for the dynamism and achievements in promoting rapid growth in fertiliser consumption seems to be fast losing its sense of priorities. The phenomenon of sales-oriented marketing approach initiated during 1984-85 continues unabated. This is likely to have serious repercussions on the national food situation as fertiliser has

remained and will remain a major contributer to the productivity increase in Indian agriculture. The ebst alternative for the government under prevailing circumstances will be to announce a long-term fertiliser pricing policy to put to rest all the uncertainty which has risen due to multiplicity of prices of fertilisers containing similar nutrients.

-,-,-, PROBLEMS

66. LAKSHMAN RAO (HK). Fertilisers: Traditional Practices. Economic and Political Weekly. 27, 7; 1992, Feb 15; 372.

The criss-cross movement of fertiliser products across the length and breadth of the country of the country, and the criss-cross communication and marketing efforts of individual units have significantly contributed to the steep increase in the quantum of fertiliser subsidies. Rationlisation of movements, demarcation of marketing territories for individual units, standardisation of products and elimination of brand promotion are some of the possible solutions to the mounting problem.

-,-, POLICIES, DECONTROL

67. PURUSHOTTAM (HS). Benefits and pitfalls of fertiliser decontrol. Financial Express. 18, 210; 1992, Sep 27; 7: 5.

The need for fertilisers are osn the icnrease. Demand will be more than the supply during the Eighth Plan. The government is hopefully planning to bring additional lands under cultivation. The government should keep a watch on the pricing policy of fertilisers. If the manufacturers start fixing up the prices according to their own style and start making exorbitant profits, government may have to interfere and import the material and dump in the market at a lower price. Another financial advantage of decontrol is that the funds are not blocked up and the burden of interest reduces. Due to the availability of funds as one need not depend upon the subsidy payment the units become healthier, default to the financial institutions and banks will be minimised and the fertiliser industry looked with respect.

-,-, SUBSIDY

68. UMA (CB), NIRMALA (V) and SUBRAMANIYAN (G). Demand for fertiliser in India - a dynamic approach. Sosuthern Economist. 29, 2&3; 1990, May 15 & Jan 1; 15-6.

Agricultural output can be increased through the

exansion of cultivated area or through an increase in the productivity of existing land. One of the crucial elements in increasing land productivity is fertiliser. In order to stimulate fertiliser consumption, developing cousntries often provide fertiliser subsidies. It is justified on the ground that it educes fertiliser cost of farmers. Though the farmers stand to gain directly from the provisions of subsidies, the economy as a whole suffers in the long run.

-,-,-, NEED

69. ARIF (Sharif). No productive results ahead from fertiliser policies. Economic Times. 33, 38; 1993, Apr 11; 5:3.

Like on several occasions in the past the fertiliser indsutry has been caught between the divergent interests of the ministries of agriculture and finance - the agriculture ministry would predictably prefer DAP supplies at the lowest price for the farmer while the ministry of finance would like further reductions in subsidy to reduce the strain on the budget. This unstable policy environment may result in erratic supplies and a decline in consumption.

-,-,-, REDUCTION

70. RAVI SRINIVAS (K). Need to cut fertiliser subsidy. Financial Express. 17, 233; 1991, Oct 17; 6:3.

There is no guarantee that increase in fertiliser consumption would cause increase in agricultural porudction forever. Perhaps, within a decade the incremental grain/fertiliser ratio may decline and stagnate. With the decline in yield and the environment consequences of fertiliser abuse the very foundation of agricultural growth would be affected. Ground water contamination, decline in soil fertiliser and entrophication will become formidable challenges before society.

-,-,-, TROUBLE

71. SEN (S). Fertiliser industry: parasite of subsidies. Link. 29, 51; 1987, Jul 26; 25-6.

The fertiliser industry's troubles arise out of the irrational policy of the government to subsidise the industry without adequate checks on foul play being practiced by the fertiliser units in government, joint and private sectors alike. The malpractices in the fertiliser industry are legand only next to perhaps the tyre indsutry. A fact finding commision is reuired to be instituted at the earliest about the happenings

in the industry, as the fertiliser industry is moving surely but steadily towards an irretrievable position of overcapacity.

-, FINANCE, LOANS, PROBLEMS

72. BALISHTER. Agricultural loans: menace of overdfues. Yojana. 33, 13; 1989, Jul 16-31; 30-3.

With the technological breakthrough in agriculture during mid-sixties the demand for farm credit has increased manifold and it was realised that despite considerable expansion of cooperative sector it would not be able to meet the expanding needs of agriculture. Government, therefore, decided to adopt "multi-agency approach" to agricultural finance and directed the commercial banks to finance agriculture. It is disturbing to note that 'old' overdues of commercial banks went up from Rs 130 crores (29.1 percent of total overdues) at the end of June 1979 to Rs 233 crores (32.3 percent of total overdues) at the end of June 1985.

-, FINANCING LOANS OVERDFUES, SOLUTIONS

73. BALISHTER. Loan overdues in agriculture: suggestions to break the impasse. Yojana. 40,2; 1996, Feb; 31-4 & 41.

In order to improve the poor recovery climate

crated by the recent loan waiver, the policy makers may consider giving concessions in refinance rates to those grassroots level institutions which consistently show good recovery performances for 2 to 3 years and these grassroots level institutions may in turn, pass on those concessions in the form of lower lending rates to those borrowers whose repayment performance is consistently good. This would help in loosing the morale of the borrowers who have been making regular payments and also give incentives to the sgrassroots level institution for increasing their efforts in improving the recovery problem.

-, FISH CULTURE role in POLLUTION WATER CONTROL

74. JOSHI (HC). Fish culture for water pollution control. Yojana. 40, 6; 1996, Jun; 22-3 & 38.

The fishes are considered to be highly susceptible to pollution. There are fishes like trout wich prefer zero pollution conditions, while some fish like oreochromics sp and some air breathing fish can survive in grossly polluted waters. Like sewage and distilleries, the effluents from the pulp and paper mill and dairy also possess the nutrient qualities which can be exploited for fish culture. However, the effluents have to be treated adequately so that the toxic elements and organics are removed completely to

ensure healthy conditions for sustaining fish in the recycling ponds. Although these propositions apparently look quite lucrative but their environmental implications have to be studied carefully.

-, FISHING ECONOMIC, KERALA

75. KRISHNA (IS). Economics of fishing in Kerala. Southern Economist. 24,5 ; 1985, Jul 1; 23-4.

India exported fish even in the pre-independence period. Thus in 1935-36 the country earned ₨ 46 lakhs from the export of fish. In 1939-40 this rose to ₨ 71 lakh. In the year of independence it was ₨ 1.6 crores and in 1951-52 it was a respectable ₨ 3.2 crores. Kerala seems to have made a good contribution to this export trade. While output is clearly on the decline since 1973 states like Maharashtra, Gujarat and Tamil Nadu have shown rising output. It should be noted that output in the country as a whole has been stagnant around a million tonnes.

-, FLORICULTURE FLOWER CUT EARNINGS

76. MAITI (RG). Flower - a non-conventional commodity of modern commercial agriculture. Kurukshetra. 44, 3; 1995, Dec; 39&46.

What is the value of the world import of flower and allied articles at present? A staggering US $ 2,500

million in 1985. With an estimated annual growth rate of 3.5 percent, the predicted figure in 1995 is over $5,000 million. Cut flower accounts for nearly 52 percent of this value. At that rate the share of cut flower is about $2,600 million. The type of commercial flowers grown in West Bengal is the maximum as compared to other states.

-,-, FLOWERS EXPORTS

77. HALI (R). Blooming prospects. Financial Express. 18, 107; 1992, Jun 14; 9:1.

Flowers - those beautiful gifts of nature - are now emerging as great money spinners with the support of a fast growing global market. Latest indications reveal that the international flower trade may cross as annual turnover of ₨ 50,000 crore by the turn of the country. The government of India has already initiated steps to enable the country to grab its share in the global floriculture market there being firm predictions about a global deficit of flowers by the year 2000.

-,-, FLOWER PROSPECTS

78. CHHABRA (SN). Prospects of floriculture industry in India. Yojana. 40, 12; 1996, Dec; 8-10.

Flowers have traditionally been used by man to

express or exhibit his inner most feelings, Be it offering to God, or presenting to the belowed or complimenting anyone or decorating home or office, or even adorning the dead, flowers find use for every conceivable emotion. With improvements in quality of planting materials, namely bulbs, and with appropriate training programmes in production, harvesting and post-harvesting management techniques, alongwith adequate marketing support, there is ample scope for even small and medium interpreneurs to exploit the global "bloom boom".

-,-, FOREIGN EXHANGE

79. ACHARYYA (Pinaki) & PANDA (PK). Floriculture - A promising foreign Exchange Earner. Yojana, 40,12; 1996, Dec; 17 & 19.

FLOWER Cultivation or Floriculture is an ancient farm activity with great potential for Generating remunerative self employment among small and marginal farmers besides earning, the much needed foreign exchange, is getting due attention these days. Europe, North America and Japan are having the chunk demand for cut flowers, U.S.A., where the percapita consumption of cut flowers has increased by 36 percent between 1985

and 1990. The Netherlands, largest trader of floriculture products, is having a lions shere with 62.90 percent, followed by columbia - 12.40%; Kenya (10.7 percent) and Israel 4.1 percent.

-,-, PROSPECTS

80. RADHAKRISHNA (R) Promoting Floriculture. Yojana. 38, 19; 1994, Oct. 31; 22-3.

Though nearly 40,000 hectares in India are under flower cultivation, because of low investment and lack of technological inputs, the quality of flowers grown in India leaves much to be desired. The investment per acre of flower plot in India is US$ 50 against US$ 400 in the Netherlands. The Government is now working out a package of incentives and concessions to boost the Indian floriculture venture. There is also a move to augment the infrastructural component essential to sustain the floriculture industry. Meanwhile, the Government has announced the Creation of nine model floriculture centres in the nine states of the country. These centres will serve as focus of excellence to introduce improved varieties of flowers, intensity production of planting materials.

-, FLOWERS, ROSE ROSE effect on FIELD CROPS

81. SHARMA ASHWANI & SANJEEV KUMAR. Commercial Cultivation of Rose. Yojana 38,7; 1994, Apr. 30; 26-7.

Rose cultivation has replaced the traditional jowar/maize wheat cropping system in small farms as it possesses potential for Generating much higher farm income (the net farm income from rose cultivation has been calculated at Rs. 17000 per hactere). The existence of a well established market network supported by corporate sector has ensured the sale of flowers in time and on the farm itself. Uttar Pradesh is the only state where commercial cultivation of rose is carried out extensively on a small scale. Aligarh and neighbouring districts labour the congenial pockets for cheti rose cultivation in the state.

-, FODDER BANKS role in DROUGHT PRONE AREAS EIGHTH PLAN

82. SUNDARAM (IS). Fodder banks in drought-prone areas needed Financial Express. 289, 1993, Dec. 16; 14:1.

Farmers should be motivated to adopt suitable fooder crop relations and relay cropping. There is need for optimising crop residues and popularising non-conventional feed resources. The eith plan lays stress on setting up of fooder banks in drought prone

recognises the need for effective Co-ordination among various agencies involved in the planning and implementation of fodder development programmes. The eight plan document observed "Production of quality seeds of fodder and put on a sound basis for meeting the increasing demands of cultivated fodder and grasses.

-, FODDER CROP, DROUGHT RESISTANCE, MOTH

83. JHORAR (BS), SAINI (ML) and KANWAR SINGH. MOTH: A drought - Resistant fodder crop. Indian farming. 30,10; 1981, Jan; 24.

Moth being the most drought resistant Kharif legume, is a good source of forage for arid and semi-and regions. It is generally grown on hight sandy soils under barani conditions. It is mostly grown as a dry crop either alone frequently mixed with sorghum, bajra or cotton. Being spreading in growth habit and forming mat like covering, it is also an ideal plant for soil- conservation. Moth fodder is superior to cowpea and slightly inferior to Juar in protein content. It is the best leguminous fodder crop for summer.

-, FOOD HONEY,

84. SIDHU (JS) and MANDER (GS). Honey: The untapped potential. Yojana. 34, 17; 1990, Sept-16-30; 30-2.

Through out history, honey has been hailed as one of the Chief sweet foods of man as well as a source of quick every. Its content of simple sugars like fructors is easily digestible. Besides, honey is used in cookery and confectionary by giving superior flavour and to help cakes and bread stay and pasteries. It is being used as preservator in jellies, sances, and fruit drinks. This many be used to add sweetness and flavour to ice-creams, replacing sugar entirely. Apart from food uses, honey is also used in cosmetics, toiletris anti-freeze mixtures and medicines. It can also be used to prepare wine and beer.

-, FORESTS, DEVELOPMENT SUSTAINABLE

85. VARSHNEY (CK), Forests and sustainable development. Kurukshetra. 45, 4&5; 1997, Jan-Feb; 19-21.

The degradition of forests in the country is causing irreparable damage. Cherapunji, the Wettest place on earth has earned the dubious distinction of being the "Wettest desert". The loss of fregile forests

has also adversely affected the local populations. Conservation strategies need to be co-ordinated with all interested groups to seek solutions to various problems. Joint Forest Management would be a step in the right direction. It is also important to incorporate forest conservation in developmented activities to promote sustainable development.

-, FORESTRY MANAGEMENT, ECONOMICS, SUSTAINABLE

86. VERMA (Madhu). Economics of sustainable forest management. Kurukshetra. 45, 4&5; 1997. Jan-Feb.; 41-7.

Environmental economics considers the environment as an integral part of economic growth. Development is not genuine if it is not sustainable. Sustainable development requires that government must take appropriate steps to correct market failures and reform policies. Proper valuation of resources is crucial in the planning process. The ultimate source of environmenal degradation and unsustainability is lack of commitment in our macro-economic and environmental policies as also market failures.

-,-, POPLARS

87. SAGWAL (SS). Grow populars for profit. Indian farming. 36,9; 1986, Dec; 27-31.

If a farmer growes the right species of populars over one hectare of land and follows the scientific recommendations, he can have a net income of Rs.8,10,000 in twelve years time. Poplar is a softwood tree which is in great demand because of the numerous uses it is put to. The matchwood industry almost entirely depends on it. It is used for making light-boxes, paper, artificial limbs and for veneering. Moreover, poplars are amongst the world's fastest growing industrial softwoods and can be harvested at an economically short rotation of around 'ten years' under agro- forestry as well as in social - forestry programmes.

-,-, WASTELANDS, AFFORESTATION, INDIA

88. BALOONI (Kulbusham). Availability of wastelands for afforestation in India. Kurukshetra. 45, 4&5; 1997, Jan-Feb. 93-4.

Afforestation of waste lands through proper financial assistance by various agencies would provide income and employment opportunities to the rural poor and improve the quality of the environment. The Government can play a facilitating role by removing obstacles and simplifying procedures. The lack of

Ground-level deta has affected the afforestation programmes. The Government of India has already implemented a National Wastelands Identification Project to identify the extent and type of wastelands in 146 districts in 19 states.

-, FRUITS and VEGETABLES, EXPORT

89. RADHAKRISHNA (R) . Boosting Fruits and Vegetables Export. Yojna. 38,24; 1995, Jan. 15; 21&23.

The export of fruits and vegetables in 1991-91 fetched India about 2050 crore in foreign exchange. There is however a clear cut realisation that through an imaginative approach, an amount of Rs. 10,000 crore million in foreign exchange can be eqred through the export of horticulture products. As things stand now, India can hope to substantially increase its vegetables export to the US and European countries where dietry patterns are redically shifting towards vegetarianism.

-, FRUITS and VEGETABLES, EXPORT, INFRASTRUCTURE

90. PAWAR (JR), PAWAR (PP) and SHETE (VR). Ned to promote export trade in fruits and vegetables. Financial Express. 17,81; 1991, May 18, 9:1.

Fruits and vegetables crops hold a Great promise

for improving dietary standards of the masses and fostering regional economic growth Market survey may be conducted with the help of expert teams to identify highly export-oriented fruits and vegetables that are in great demand in different international markets. The administrative machinary looking after export trade should become more efficient to encourage export trade. Facilities be made available for quick transport of fruits and vegetables through cold container carriers from producing areas of destination.

-,-, PROCESSING INDUSTRY

91. SINGH (HP). Fruit and Vegetable Processing Industry in India Yojana. 38, 24; 1995, Jan 15; 22-3.

In India, more than 3,500 fruit and vegetable processing units with a capital investment of over Rs.250 crore are at present operating. It has been estimated that as a result of processing of various kinds of fruits and vegetables, a sum of about Rs.12,429 crore is added per annum in terms of value addition. This industry accounts for about 19 percent of the industrial output, 18 percent of the gross domestic product, 7 percent of the total industrial investment

and provides employment to 19 percent of the industrial workers.

-,-, FRUITS, BANANA NUTRITIVE VALUE

92. SUBRAMANIAN (V) and PILLAI (Alagia Anchanam.O) Nutritive value of Banana varieties. Kisan World. 23,9; 1996, Sep; 13.

The nutritive value of banana fruits of the world in general was published by stover and simmonds (1987). Banana have a special, place in diets, low in fats, cholestrol and salt. Because of the low lipid and high energy value, banana fruits are recommended to obese and Geriatic patients Banana fruits are useful for persons with peptic ulcer and for treatment of infant colitis. Bananas are good source of vitamin - C and Vitamin - A.

-,-, MANGO, EXPORTS

93. CHHABRA (NN). Mango: the exchange - spinner too. Kurukshetra. 44,10; 1996, July; 53.

When the cherished mango, the highly sweet, juicy and aromatic fruit has arrived, no other summer

fruit is asked for. Mango is an important export item, too. Having a big market in other countries, it fetches substantial foreign exchange to the country. Our mango export that was worth about Rs. 3.25 crore in 1977-78 and Rs. 6.44 crore in 1986-87, increased to Rs. 17.30 crore in 1987-88 and to Rs. 31.22 crore in 1990-91. Still higher increase was marked in 1991-92 worth about Rs. 36 crore, and now for 1992-93 the quantity of fresh mangoes exported is valued at Rs. 48 crore.

-,-, FRUITS, PAPAYA

94. PANDEY (D) and SHARMA (RR). Papaya cultivation in India. Kisan World. 23, 4; 1996, Apr.; 26-7.

Papaya (Carica Papaya L.) known as papita in Hindi belongs to family Caricaceae. Papaya is one of the fruit plants which is highly susceptible to extremes of temperature and frost damage can be avoided by adopting. Cultural practices like irrigation, creation of smoke and by covering the plant with straw during the expected period of damage. Papaya is highly susceptible to water logging and soil salinity/alkalinity. A short period of water stagnation will be sufficient to destray whole crop.

AGRO-INDUSTRY, GREEN REVOLUTION in relation to SUBSISTACE AGRICULTURE

95. RAHUL and NELLITHANAM (J). Green Revolution and subsistance Agriculture: You reap as you sow. Economic and Political Weekly. 18: 1997, May 3-9; 930-2.

The Green revolution has not only made agriculture economically univable but has also destroyed the environmentally rich bio-diversity of crops. By reviving the unirrigated wheat varieties in the Malwa re ion, a Group of activists and farmers is attempting to enrich subsistence farming and delink food production from commercial and industrial interests.

-, GROUNDNUT, DISEASES, SEED, COLLAR ROT

96. KARTHIKEYAN (A). Seed and collar rot of Ground nut Kisan World 23,4; 1996, Apr.; 51.

Seed and Collar rot is one of the important diseases causing heavy yield reduction in Ground nut, it has been considered as a post harvest disease of Groundnut. The disease affects the quality of Groundnut Kernels as well as the edible oil. Earlier, this disease was reported as a minor disease in the field

and caused lesser damage to the crop. Now it is becoming a serious disease in many areas of Groundnut cultivation and causing a sizable yield reduction.

-, HUMAN RESOURCE DEVELOPMENT, AIMS

97. KRISHNA IYER. Role of human resources development Indian farming, 42, 5, 1996, June.

Human resources development was needed for the allround development of the people. It is applicable to all. There is a department in the Union Government called Human Resources & development Ministry. It is generally applicable to the poor and peasant of the villages. The aim of the human resource development is the all round development of the people. There needs the participation of voluntery organisations and peoples for the improvement of life.

-, in relation to DEVELOPMENT ECONOMICS

98. LAHIRY (SC). Sustainable economic development. Kurukshetra. 45, 485; 1997, Jan.-Feb. 39-40.

Sustainable development does not end with the sustainablity of just the environment and resource system but requires the sustainability also of economic

and social system. Multinational should not be given a free hand to tamper with our environment and should be compelled to disclose risk information on activities that would be harmful to people and environment. The lack of stringent environment low may lead to a reversal of the economic progress of our country.

-, INDIAN AGRICULTURE, TECHNOLOGY in rlation to SOCIAL CHANGE

99. VENKATASUBRAMANIAN (K). Technological changes and social tensions in Indian Agriculture. Kisan World. 23, 1; 1996, Jan; 35-7.

Technology change denotes all the available means which improve the efficiency of converting scare resources into products which satisfy human wants. Technology change involves the use of now inputs and knowledge which help to shift the production function upward. The combination of inputs required to obtains a given output may change along with a shift in the total input output relations. The most important economic impact of technology change is that it facilitates saving of important resources like land, labour or capital.

-, INTERCROPPING ARHAR

100.SINGH (HP) Intercropping with Arhar pays rich dividends. Indian farming. 32, 1; 1982, Apr.; 19-20.

Intercropping of urdbean, mungbean, cowpea and soyabean does not affect the arhar yield adversely. Intercrops gave additional yield of 423 to 785 kg grain legumes per hectare in two years, whereas the range of yeibl for maize was 2,627 kg per hectare in 1973 to 3,120 kg per hectare in 1974. The ultimate consideration for the selection of best combination is the economics of production.

-, INTERCROPPING, BHABOAR with EUCALYPTUS

101. SUD (AD), MITTAL (SP) and MISHRA (PR). Raise bhabbar grass in Eucalyptus plantations. Indian farming. 35, 12; 1986, March; 11 & 33.

Eucalyptus takes 8-10 years for maturity. Presently it is being planted by those who can afford to want but small and marginal farmers cannot wait for such a long time. They must have annual returns to sustain themselves. Possibilities need to be explored for an associate crop with encalyptus which can give

annual returns to subsistance farmers. The average production of 4.85 tonnes per hectare per year of bhabbar grass from beneath the eucalyptus plantation can give an income of Rs. 2,500 per hectare per year from the Becond year onwards.

-, INTERCROPPING COTTON with MUNG

102. ARJUN PRASAD, SAM (MJ) and SRIVASTAVA (AK). Intercrop cotton with Mung for higher profits. Indian Farming. 39, 4; 1989, July; 3.

Experiment conducted at Bellary, Karnataka have shown their intercropping cotton with mung (1:2) can fetch the farmers an additional yield of 572 kg of grain per hectare without in anyway affecting the yield of cotton. Average production of cotton for three years was 2,880 kg/hactere. Mung, cowper, grondnut and sesamum as intercrops gave consistence performance. Maximum net profit in cotton was from cotton + mung and cotton + sesamum combinations yieldning Rs. 11,832 and Rs.11537 per hectare respectively, over Rs. 11,195 per hectare from pure cotton.

-, INTERCROPPING POTATO with WHEAT, HIGH YIELD

103.SHARMA (SN), PRASAD (R), SINGH (S) PRASAD (M). Potato-Wheat Relay cropping system boosts wheat yield. Indian farming. 39, 8; 1989, Nov; 6-7.

Scientists at the Indian Agricultural Research Institute, New Delhi, have found a way of increasing the yield of wheat from potato-wheat relay croping. Small farm owners, particularly those having less than one hectare of land and those with land near cities, stand to benefit from this result as they practice intensive cropping involving grain and vegetable crops.

-, INTERCROPPING PULSES

104. AHLAWAT (IPS) and SHARMA (RP). Pluses as intercrops. Indian farming. 35, 12; 1986, March; 3-5.

Intercropping with pulses is fast becoming popular with the farmers. The wider space in between two pairs of principal crop helps the intercrop to grow better and yield more. The evolution of new dwarf and compact varieties of pubes like moong, urd and cowpea. etc have offered a good opportunities for using them as efficient intercrops in various tall growing and widely spaced crops.

-, INTERCROPPING, SOYABEAN, MADHYA PRADESH

105. PANDEY (TD) and RAO (SS). Soyabean intercropping in Madhya Pradesh. Kisan World. 25,5; 1997, May; 22.

The monetary returns to the farmers are not Commensurate with cost benefit ratio. Intercropping will, therefore help them to meet the higher cost of cultivation. Soyabean is one of the intercrops which not only provides higher income but also helps to maintain soil fertility, through its root and leaves and other plant parts. Inter cropping of rice variety Annada with soyabean variety PK 472 recorded a mean grain yield of 31.52 q/ha of rice and 3.11 q/ha of soyabean white the sole crop of rice and soyabean gave mean Grain yield of 25.69 q/ha and 2.36 q/ha, respectively.

-,-, with CANE

106. SATISH (Chandra) Intercropping soyabean and cane. Indian Farming. 38,2; 1989, Nov; 20-2.

In order to utilize the space and time available in the initial stages of the came growth, intercropping of one intercrop of soyabean in the middle of the ridge

resulted in some field management. Sugar cane, a long duration, wide - spread crops, takes 90-100 days to cover the ground area by its canopy. Further the intercropped soyabean recorded an yield of over 800 kg. per hectare.

-,-, SOYABEAN with RAINFED COTTON, MAHARASHTRA

107. PATIL (VP), RAUT (VM) and HALWANKAR (GB). Intercropping of Soyabean with rainfed cotton in Maharashtra. Indian farming. 34, 8; 1984, Nov. 13.

Trails were conducted for a period of four years on farmers fidds to find out the profitability of intercropping soyabean with rainfed cotton in Maharashtra. It has been found that intercropping can give an additional gross income of as much as Rs. 629 to Rs. 1,836 per hectare with an average of Rs. 1,042 per hectare. It also improves the soil and reduces the incidence of weeds in the fields and the common pathogens on cotton.

-, JUTE

108. VERMA (PC). Capacity utilisation in jute Industry in India. Indian Economic Journal. 38, 2; 1990, Oct.-Dec.; 54-59.

Jute Industry has now become a sunset industry in

India. Capacity utilisation in jute industry sectors has been falling down. For the constuction of production capacity in jute industry separately for hessian, sacking and other jute goods, and also at aggregate level, monthly production data have been taken from 'Monthly statistics of production of selected Industries. Capacity utilisation in jute industry was high during fifties, but subsequently it has been falling to lower levels.

-,-, INCENTIVES PRICE

109. MAJUMDAR (AG). Price Incentives for Jute Growers. Economic Trends. 16,7; 1987, Apr.1; 13-5.

The minimum support price for 1987-88 season for W-5 grade, Tripura/Meghalaya has been raised by Rs.15 to Rs.240 per quintal. To discourage production of inferior grade of raw jute, a discount of Rs. 15 per quintal has been fixed for such grade. Similar incentive has been offered for higher grades of mesta over bottom grade of Rs. 20 per quintal and a discount of Rs. 20 per quintal has been fixed for B-bottom and Rs. 10 per quintal for X-bottom grades.

-,-, VARIETY

110. SINGH (DP) "Savitri" : a new high yielding Jute variety. Indian farming 38,11; 1989, Feb; 17 & 24.

A new variety of jute named "Savitri" has been evolved and released for cultivation in high and mid lands of the country. It gave 11 percent higher fibre yield in some states over the standard variety. This variety recorded a minimum infection of yellow mite (3.9 percent) as against more than 6% in JRO-632 in West Bengal. It is also found to have minimum infection of other insects like semi-loopoer, hairy caterpillar and stem weavil in Uttar Pradesh.

-, KHADI, PROSPECTS

111. MUNIANDI (K). Khadi Industry in the 21st century. Kisan World. 23,9; 1996, Sept; 45-7.

Khadi is one of the Greatest gifts of Mahatma Gandhi to the spining Indian nation. The tools of production in spining and Weaving too, are constantly upgraded through research and innovation so that the artisans are able to earn more wages. The Khadi wearing public are already agitated over the move of the Central Government to stop all rebates to Khadi forth

with. Under these circumstances it is incumbent on our part to be prepared for the worst.

-, LAC

112. BIDEHJEE (Jha). Lac - its uses and Possibilities Yojana. 35, 9; 1991, May 31; 25 & 28.

Lac is a nature's gift to mankind.In the absence of refrigeration, apples are best preserved by coating their skin with a solution of castor oil and shellac in alcohol. This retards weight loss and damage by mould. Solutions of arsenic and resin free shellac in pure alocohol are used as confectionary glazes. Candles coated with them keep their shape when packed in bulk. Coating for fruit juice crystals used as flavour particles for cake mixes to protect them from the solvent action of water are made of shellac (67% alcoholic solution). In backed cakes, these coated crystals remains discrete, yet not tough to eat.

-, LAC EXPORTS, HINDRANCES

113. BHOWMIC (T) & PANDEYA (SR). What hinders development of Lac? Yojana. 34, 9; 1990. May 16-31; 26-8 & 34.

India is the major producer of lac in the world. Nest to it is thailand. Before 1957 total produce of

Thailand used to be imported into India after preliminary processing. After final processingit used to be exported to be world market. The then government of India's banned import of Thailac. So these traders started exporting to be Worldmarket. Going by the paltry monetary return we get through export ie. 40 crores approximately annually, we stand no where as far as our national economy is concerned.

-,LIBERALISATION, NINTH PLAN

114. MISHRA (S N). Agricultural Liberalisation and Development Strategy in the 9th Plan. Economic and Political Weekly. 13; 1997, March 29-April 4; A-19-29.

Free market advocates argue for removal of all government interventions from agricultural commodities. But looking at agricultural policy from the perspectiveof social objectives there is no blanket case for removal of all interventions. Instead in case of market failure such as national food security and food security for the poor, intervention in the market is necessary and desirable. Also there is no need for removal of ceilings on land ownership to achieve maximisation of agricultural output and employment.

-,LIVESTOCK role in DEVELOPMENT

115. RAMASWAMY (NS). Livestock and Development. Kisan World. 23,9; 1996, Sept; 39-40.

The livestock sector gets almost nothing, except perhaps a meagre subsidy only, by way of ERDP loans, which may not be more than Rs. 100 crore per year. Strangely, livestock gives food products worth Rs. 66,000 crore (milk, meatand egg) and indirectly Rs. 6000 crore towards food production by a way of work. (ploughing and carting) and fertilizer. And yet, the livestock sector does not receive any support or infrastructure facilities to increase its efficiency.

-,MANPOWER compared with SURVEY MECHANICAL

116. AGARWAL (BL). Share of Manpower under Different types of farms Manpower Journal. 20,1; 1984, Apl-Jun; 43-7.

The productivity of labour in different types of farms producing paddy and sugarcane in two tractor intensive regions of Tamil Nadu and Karnataka in 1976-77. It finds that the rate of substitution of human labour by other types of power has increased the labour productivity but the rate of increase is not similar in two regions and in the case of two crops studied. Study indicates the need for a rational

energy management for minimising under-utilisation of tractor services and increasing labour productivity.

-,MARINE FISHING KERALA

117. RAMAKRISHNAN (K). Marine fishing Industry of Kerala. Productivity. 37,4,1997, Jan-Mch, 662-6.

The Main fishing Industry of Kerala which had witnessed a drastic fall in productivity during themajor part of the last decade has registered some notable improvementsin the current decade. The trend seems to be the result of a number of factors like improvements in the craft and year used by the traditional fisherman extension of fishing of further off shore areas and conservatory measures taken by the government of Kerala since 1989. The marine fishing industry of Kerala has witnessed notableimprovements in productivity since 1989.

-,-,RESOURCES, ALGAE, SEAWEEDS

118. KATHIRESAN (K). Seaweeds: A Lucrative Area. Yojana. 35,4; 1991, March 1-15; 20-1.

Seaweeds are a form of algae, which form an important component of marine living resources. There are about 681 species of seaweeds in India, of which 60 are commercially important Exploitation of the

seaweed resources for chemical, food, fertilizer, feed and fuel, would be very promising. Cultivation of seaweeds for their increased utilization would further augment the employment opportunities of the coastal population. Hence the cultivation and utilization of seaweeds can contribute significantly to rural development and thus to the country as a whole.

-,MARKETING, COOPERATIVE FUTURE

119. RAIS (A) and SHERWANI (NZK). Agricultural Marketing Cooperatives in changing Economic Environment Cooperator. 34,6; 1996 Dec; 235-6.

If agricultural marketing Co-operatives have to service in the current changing economic conditions and competitive world, they should be allowed to work as autonomous cooperative marketing agencies and carry on their business on the basis of principles of Co-operation. It is an era of competition. Only those business enterprices can survive which are working effeciently and according to the needs of the society.

-,MEDICINAL, PLANTS, ASPARAGUS, USES

120. RAJAMANI (K) and AZHAKIAMANAVALAN (RS). Asparagus Racemous. Kisan World. 23,9; 1996, Sept; 56.

Tubers of Asparagus, Racemosus are used in various phamaceuticils preparations. It is nutritive,

refrigerant and also an aphrodisiac. It helps to stop dysentery and also to regain the body weight-loss. The tubers are used to treat diabetes and tuberclosis. Besides it is administered to maintain General body health and also to posses immunity to many disceases.

-,-,-,*FOREIGN EXCHANGE*

121. GAUNIYAL (A K), SINGH (A K) and VIRMANI (OP). Major Medicinal Plants as Foreign Exchange earner. Yojana. 35, 13; 1991, July 31; 14-8 & 30.

Interest in medical plants is growing day by day. It has been generally found that synthetic drugs antibiotics used over long period, leaves harmpal side effects. Trade in cruck drugs and herbal products have in creased significantly following the rising demand in pharmaceutical, cosmatic and food industries. This opens up opportunities for India. There is also the need for encouraging export of finished products, rather than raw materials.

-,-,-,NEEM

122. ANI (JR), SUJIT (R) and MANI (JR). Neem-Cynosureof future. Kurukshetra. 45, 4&5; 1997, Jan-Feb; 116-7.

A native of the Indian sub-continent, neem is a moderately large tree with stout and short stam. The tree attains a height of 12-15m and a girthof

1.8-2.5m. The bark yields a fibre which is locally utilized for making ropes. Neem, a versatile tree sacred to the Indians is poised to emerge from the temple courtyards to the business front in view of the recent discoveries of its ability to check the multiplication of Human Immuno Deficiency virus (HIVs).

-,-,-,-,USES

123. HEGDE (N). Neem-for all reasons. Yojana. 40,7; 1996, July; 29-30 and 32.

Neem tree has great potential to protect the environment. This is the tree which has ansures for several problems of environment and economics in the developing countries. Being a drought tolerant species, neem is planted extensively on degrated wasteland in India, Pakistan, Middle East and Africa. The trees can be cut for timber after 30-50 years. The wood is aromatic, moderately heavy, with a specific gravity of 0.72 to 0.83, the wood is used for building houses, furniture, casts, ship building, oil mills carved images, drums and agricultural implementation.

-,POULTRY FARMING, TURKEY PRODUCTION

124. CRISTOPHER (James K). Turkey Raising: a profitable business. Yojana. 41,3;1997, March;35.

Turkey raising is simple, easy and profitable.

Turkeys are hardy birds and they do not easily succumb to diseases and deaths as compared to chicken. They are refactory to Ranikhat disease and infectious Bursal disease or Gumboro disease of chicken. Young ones do not suffer from coccidiosis, but the diseaseis not so severe as a chickens. However turkeys do suffer much and die due to a form of enteritis known as Blackhead. All these can be well attended to or treated.

-,-,-,PROSPECTS

125 .CHAWDHRY (K B). Spectacular progress poultry Production. Mysore Economic Review. 69,11; 1984, Nov. 13-17.

India ranks fifth in egg production. Value of poulty production increased by 400% to Rs. 6,500 million. Pune is one of the major export centre. Egg. production ws 2,340 million in 1961, it has spurted to 17,300 million. Broken production increased from 30 million in 1980 to 80 million in 1985. Cage system is replacing deep litter. Coal temperature is provided in summer. Birds have adopted to tropics.

-,PULTRY FARMING, effection INCOME

126. IQBALUDDIN. Poultry farming to boost income of the small farmers. Indian Farming. 37,7; 1987,Oct; 19-21.

Poultry farming can go a long way in augmenting the incomeof the small farmers, marginal farmers, tribals and other economically weak, people. It requires a modest investment and no specialized or complex knowledge. The return is also quick. Poultry production offers triple advantage to the small farmers in the form of making available high biological quality protein, additional income and job opportunities in the shortest possible time.

-,-,COMMON MINIMUM PROGRAMME

127. RAVISHNKAR (A) and SHUNMUGAM (V) CMP (Common Minimum Programme) and agriculture: a Watershed? Kurukshetra. 45, 1&2; 1996, Oct-Nov; 129-32.

Analysing the Government's commitment to the common Minimum Programme in the light of the first budget of the united front government, the authors say that the government deserves a pat on the back for its bold initiative to put back the forgothen agenda of agriculture into focus. If the government wants to secure a better life for the masses byproviding basic minimum services, then the distinct pro-rich farmer bias has to be dispensed with.

-,PLANTATIONS, TIMBER TEAK

128. GOPAKUMAR (S). Teak: new vistas. Kurukshetra. 45,4&5; 1997. Jan-Feb; 118-20.

Teak occupies a principal position in the timber economy of India. As one of the most valuable timber species of South-East Asian countries in which it grows, teak has invited much scientific attention particularly with regard to its forestry practices. Teak thrives naturally in the tropics with a wrm and moist climate having a mean annual ranifall of 2000 mm but avoids waterlogged or very dry habitats. Teak comes up best in well-dramed alluvial soils.

-,-,RUBBER, EXPORT

129. SUNDAR (PS) Rubber export controversy, Financial Express. 17,234; 1991, Oct 18; 4:1.

Controversy is nothing new to the observes of the rubber economy in the country, but the present controversy is, indeed new, all along, the grovers and the manufacturers were seen disputing the statistics of production, consumption and hence imports, besides prices. Economic observers are yet to go beyond the question should we import rubber this year and if so, how much? To think of exports in such circumstances is, indeed, a test for comprehension.

-,-,CROPS PRODUCTION

130. WALLIA (PS). Plantation Industry. Kisan World. 22,12; 1995, Dec; 19-20.

The year 1994, was a disastrous one for tea. Though the industry harvested its second highest crop of 748 million kilograms. prices crashed from an average of Rs. 43 per kg in 1993 to Rs. 31 in 1994 for South Indian teas, while cost of production averaged Rs. 36 to Rs. 37. The price situation countinues to be a matter of concern. Cardamom is in the drumps with prices falling from Rs. 404 per kg in 1994 to Rs. 289 lper kg. Indian Cardamom is being prices out of the world markets.

-,-,-,EXPORT

131. MANOHARAN (NK). Trend of Exports of Plantation crops. Southern Economist. 29,1; 1990, May 1;31-2.

India is an agricultural country producing different varieties of crops namely-food crops and non-food crops (ie. commercial and plantation crops). A sizable foreign exchange earned by India is through the export of spices. The share of coffee in India is 3 percent in the total world production and 2.3 percent in the total exports. India is the largest producer of Tea in the world. India cultivates 60.55

percent area of tea in the world and 36.57 percent of production. Nearly 41 percent of the entire production of cardamon in the world is produced by India.

-,-,BLOCK LANDS

132. MURANJAN (SW). Plantations on Common Lands. Artha Vijnana. 29,2;1987, Jan; 180-5.

Plantations were being raised on blocks of land by the Government under various schemes, formulated to augment the Social Forestry plantations in the state. Though the objectives may be different, the broad contents of these schemes were more or less alike, as all schemes implied the creation of plantations in small blocks either on the Government or the community lands, for the benefit of the people.

-,-,BEVERAGES, TEA, INDUSTRY

133. SARDAR (A). Tea industry: ailment and remedy. Yojana. 35,5; 1991, March 16-31; 6-7 & 24.

According to a high level committee on tea, unless immediate and adequate steps are taken to boost tea production substantially, the growing demand may force the country to import tea to meet the growing domestic requirement. While the short term measures call for bettering the culturalpractices, in thelong

run, replantation of the aging tea ares and expansion to new areas are the only avenues open before the country.

-,-,-,-,EXPORTS

134. NAFEES (A K) and YAMEEN (M). Tea-an export oriented industry. Yojana. 33,10; 1989, June 1-15; 26-7.

Team an important source of refreshment in the life of man was discoveredin China in the 6th century A.D. tea industry is one of the earliest industries in India developed by the Britishers. Being an export oriented industry it occupies a crucial prosition in the netional economy of India. Tea industry is one of the most important export oriented industries which gave impetus to the development and growth of national economy.

-,PLANTS, effect on POLLUTION, REDUCING AGENT

135. ARUNACHALAM (V) & SIVASAMY(N). Plants as Pollution Reducing Agents. Yojana. 40,7; 1996, July; 17&20.

Environmental pollution is one of the major problems of India. Pollution is very common in mega cities as well as in areas nearing industrial complexes and power stations. Pollution reduction is almost neglected by industries due to the huge cost

involved in the installation process. But for a healthy life of a citizen, clean environment is a must.

-,-,BREEDING RESEARCH, BIOTECHNOLOGY

136. GANESH (RP). Genetics and Plant Breeding Research. University News. 27,49; 1989, Dec. 4;18.

The Indian Society of Genetics and Plant Breeding in collaboration with Banaras Hindu University (BHU) recently organised a National Seminar on Recent Advanced in Genetics and Plant Breeding Research in India. The areas of discussion were from germplasm resources, breeding methods, better seeds to different aspects of plant biotechnology.

-,PISCICULTURE, PROMOTION, HARYANA

137. BISHT (RS). Fund for Pisciculture. Economic Trends. 16,5; 1987, March 1;9.

Haryana government has allotted Rs. 7.50 crores for the promotion of pisciculture in the state during the seventh plan. At least 25 per cent of this fund would be utilised to assist fish farmers belonging to the scheduled castes. For meeting the growing demand of fish seed, the Haryaan fisheries department has

also launched a programme for remodelling its existing fish seed farms in a phased manner by installing circular bucket type hatcheries.

-,PAPER INDUSTRY

138. KHAN (AQ) & MOHD TUFAIL KHAN. Paper industry; an appraisal. Yojana. 34, 11; 1990, June, 16-30;31.

The paper industry is highly capital intensive industry. This industry has been unable to function vigorously for some time now. The main reasous being; a steady rise in the cost of imputs, heavy over heads, paucity of power and adverse impact of control orders over the Industry. In order to overcome the problems of the paper industry the first and foremost steps should be to remove the control over prices and production of printing paper.

-,OIL SEEDS, SUNFLOWER CROP

139. SOBARAD (Prakash M). Sunflower - promising oilseed crop. Kisan World. 23,4; 1996, April; 39.

Sunflower is an important oil seed crop in the world and ranks third next only to soyabean and cotton, with an area of 17.64 million hectace producing 21.65 million tonnes. In India's it is cultivated over an area of 2.1 million hectare with a

production of 1.19 million tonnes. In the present oil crisis, sunflower promines a bright future and is distinctly superior to other oil seeds crops.

-,-,SAFFLOWER

140. VENKATESH (Latha). Safflower: healthy giving oil popular. Economic Times. 35,282; 1993, Dec. 11;9:7.

Saffower is a rabi crop and stocks of Kardi seed today are at their lowest, and this too accounts for the firm trend in kardi seed prices say market sources. In the repetoire of oil seeds safflower is a mioor oilseed, whose potential as a health oil is gaining currency. Given the increasing incidence of coronary vascular diseases and obesity related problems, safflower which is one of the unsaturcted oil, is generally believed to be ideal for tropical cooking conditions.

-,-,PULSES, PRODUCTIVITY HIGHER, SCIENTIFIC INPUT

141. JAYASWAL (Himanshu). Achieving higher oilseeds and pulses production, Yojana. 31,24; 1988, Jan 1-15; 23-5.

The Achievements in Indian agriculture, since independence have won national and international appreciation. Production of oilseeds and pulses can

also be increased by deploying Pigcon-Pea and Groundnut based inter-cropping system in place of rice in ricewheat system. Efficient methods of water harvesting alternate cropping and compensatory machanisms should be applied.

-,-,PRODUCTIVITY, SCIENTIFIC INPUT

142. KHANNA (SS) & GUPTA (MP). Strategy to boost oil seeds production. Yojana. 32,10; 1988, Jan 1-15;34-8.

Oilseed production assumes great importance in India because of the gap in demand and supply, which forced our country to import vegetable oils to the tune of Rs. 612 crore in 1986-89. In order to achieve a higher growth rate in oilseed production and to narrow down the gap between demand and supply, the (NODP) National Oilseeds Development Projects was restructured for implementation during the seventh plan to build in long term capabilities for sustained growth.

-,-,PRODUCTION

143. RADHEY SHYAM oily Oilseed industry. Yojana. 31,24; 1988; Jan 1-15; 19-22.

India has the distinction of being the third largest producer of oilseedsin the world. We are first

in theproduction of groundnut, sesame, castor and niger, second in sumflower; and third in rapeseed mustard, coconut and himseed. Soyabean and sunflower are gradually gaining importance but at present contribute only 1.3 million tonnes of oilseedin India. However, from theposition of major exporter of oilseeds, oilcakes and vegetable oils, India has become the largest importter of oilseeds.

144. GLATI (VP) & KUMAR(K). Edible oils scenario holds hopes. Financial Express. 18,210; 1992, Sept 27;7:1.

India has traditionally been groundnut country. Although there exists strong regional preferences for oils, like for mustard oil in the cast and for coconut oil down south, the demand for groundnut oil far outfaced all there. Around 80 percent of all oilseeds in the country used to be produced during the Kharif, leaving a paltry 20 percent as the Rabi contribution. Today, there are few agencies that an about scientifically estimating oilseeds production. As a result the spectalative element in oilseed/oil prices is very high.

-,OILS, SUNFLOWER on HILLS

145. SRIVASTAVA (SP) and HAZAKIRA (UK). Scope of sunflowerin North-Eastern hills. Indian Farming. 34,4; 1984, Jul; 10&39.

The north-eastern hilly region is predominantly monocropped with rice and maize as mani crops. Normally no oilseeds crops is grown in hilly region and edible oils are brought from outside in the hilly states. Consequently greater attention is being given to the introduction of new edible oilseed crops because of limited scope of Groundnut, sesamum and mustard at medium and at highly attitudes in hilly regions.

-,-,-,CULTIVATION, NEW PROSPECTS

146. SEETHARAM (A). Sunflower cultivation. Indian farming. 30,10; 1981, Jan; 13-7.

Large-scale cultivation of sunflowerin our country started in the early seventies, with the introduction of five varieties namely, EC-68413, EC-68414, 'EC-68415', EC-69874 from the USSR and sunrise from Canada. Sunflower can also be grown as a mixed crop along with the major crops of the tract.

-,-,PALMAROSA GRASS, WASTE UTILISATION

147. RAJU (N), RAJENDRAN (R), JAYARAMAN (V)& SRIDHARAN (S). Promising Palmarose grass cultivation. Kisan World, 25,5; 1997 May; 47-8.

A tonne of palmarosh grass extracted will yield about 3 to 4 kg of oil. After extraction of the oil

from the palmarose grass, the waste can be utilised as fuel for the steaming purpose to the farmers it is a boon to have it as a crop and also as an insecticide bagged as oil for checking the pests in the crops viz. paddy, pulses, cotton and soyabean. Further the bye-production of palmarosh grass waste can be utilized for starting small cottage industries.

-,-,EDIBLE, PRODUCTION PALM

148. SURESH (Shah). Edible oils: Advantage palmoil. Economic Times. 32,170; 1992, Aug 22; 9:1.

Owing to late but favourable monsoon in most parts of the producing areas, theoilseeds production during the current season is estimated around 19.5 million tonnes and oil imports have been drastically custailed from 5.40 lakh tonnes valued at Rs. 350 crores in 1990-91 to mere 1.77 lakh tonnes worth Rs. 180 crores. Polybag nurseries have been established with high yielding hybid pre-germinated seeds from imported and indegenious sources.

-,MUSTARD, PATOTO INTERCROPPING

149. RATHI (KS) and KEIM (DC). Raise Mustard Crop from Patoto fields. Indian Farming. 32,1; 1982, April; 21-3.

An agro-technique has been developed for obtaining a bonus of 12 to 15 g/ha of mustard from a

potato field without much increase in total expenditure. This practice will be a boon to thepotato growers belonging to the category of small marginal farmers. At present, about 8 lakh hectares area is covered by potato in the country and it only 2 lakh hectares area is put under the new association, additional production of mustard seed to the tune of 2.4 to 3 lakh tonnes will be obtained.

-,MUSHROOM use as FOOD

150. VIJAY SETHI and ANAND (JC). Enjoy Mushroom products. Indian Farming. 32,6; 1982, Sept; 17-9.

Mushrooms are not only a delicacy but also a nutritions food especially suited to the diabetics. They grow wild in nature in fields partures and woods. They are also now being grown commercially on scientific lines. Now they are available to the connoisseurs throughout the year. There are many ways of cooking them. The mushrooms are relished principally for their excellent flavour and they are highly mutritious. Although mushrooms are low in caloric value they are rich source of poteins, minerals and vitamins.

-,MUSHROOM, CULTIVATION, HIMACHAL PRADESH

151. SOOD (YL). Mushroom Cultivation Centre. Economic Trends. 12, 4; 1983; Feb. 16; 20-22.

The Indian council for Agricultural Research (ICAR), New Delhi, will be setting up a national centre for mushroom research and cultivation at Salam in Himachal Pradesh. The new centre would conduct research on all aspects of mushroom production and posts harvest technology as also impart training to scientists, extension workers, growers including landless workers and home gardeners, and students. Additionally, it would work to evolve, and introduce new high yielding strains of mushrooms and conduct surveys for collection of naturally occuring mushrooms.

-,MIXED FARMING INCOME

152. NARINDER SINGH, MALIK (BS) and KAIRON (MS). Mixed farming for more income. Indian farming. 34,9; 1984, Dec; 21-3.

To utilise their spare time and to augment their income farmers with smallholdings can take to mixed farming. A few poultry birds, goats, a patch under vegetables, some fruits trees and a crossbred

cow can bost the income of a farmer. Mere raising of crops is much less profitable than diary farming and mixed farming. The net profit per hectare, was formed maximum (Rs. 1,769) with specialised dairy farming followed by mixed farming (Rs. 1072), whereas crable farming yielded a maximum net return of only Rs. 382 per hectare.

-,MEDICINAL PLANTS NEEM use as PESTICIDE

153. SURESH (N). Neem as a pesticide. Kurukshetra. 43,3; 1994, Dec; 15&42.

Indian farmers had always been using dried neem leaves to keep insects away from food grains during storage in bins. It bogged the headling in 1968 when two British scientids insolated from neem kernals a compound, called Azadirachtin-A. This attained celebrity status when the scientists demonstrated its remarkable biological activity which could inhibit the growth of over 200 pests. It was then realised that the compound could be developed into pesticides which can control insects without harming the environment.

-,PULSES, GRAINS PRODUCTION role as DIETRY PROTEIN

154. KHANNA (SS) & GUPTA (MP). Raising production of pulses. Yojana. 32,17;1988, Sep.16-30; 4-8 & 12.

In the predominantly vegetarian population of

India, pulses are an important source of dietary protein. In addition, they are also a rich source of energy, minerals and certain vitamins. Recently, a large numbr of improved varieties of different pulse crops have been evolved which are capable of enhansing and stabilising production. It may be noted that aggfressive variety development programme has checked the declining trends in areas where irrigation has been introduced.

-,-,PRODUCTION

155. MUNDINAMANI (SM), BASARARAJA (H) and HOSAMANI (SB). Production of Pulses. Yojana. 33,19; 1989, Oct 19; 25&34.

Pulses are the main sources of protein for the predominantly vegetarian population of India. They are also used as fodder and concentrate for the cattle. In the world context, India produces about 24.5 percent of the total pulse production while in acreage India stands first accounting for about 33.8 percent of the world pulse area.

-,RAI VARIETIES

156. KINRA (K L) and GANGA (Saran). Grow Rai Strain '6342' high yields. Indian farming. 32,1; 1982, Apr; 17&20.

Two rai strains, R 6342 a new selection evolved

at IARI Regional station, Kanpur and 'L101', the local elite strain that is now under commercial cultivation were both tested in the plots. The entire field of half an hectare in extent was divided into eight equal quadrants. The plot 1 to 4 were sown with R634 and plot 5 to 8 were sown with 'Laha 101'. Comparing the two systems of culture, maximisation plots of both 'R6242' and L101 have recorded substantially higher yields than their corresponding check plots.

-,RICE SHELLERS, AGRO-INDUSTRIALISATION PUNJAB

157. KAINTA (GS) Agro-industrialisation-Case for rice shellers. Yojana. 33,19; 1989, Oct 16-31; 8-9.

A variety of agro-industries can be set up in Punjab, such as rice, sugarcane, cotton, wheat etc. Rice processing plants however, is a typical oen being less capital-intensive. It also fulfills all the three basic requirements about the extablishment of agro-industries. These are (1) industry must fasten the spirit of interdependence between agriculture and industry. (ii) itmust use raw materials provided by agriculture and output of industry must have a market among ruralpopulation and (iii) Surplus man power must be absorbed by the industry.

-,role in INDIAN ECONOMY

158. ALAGH (Yoginder K). Challenges facing the Indian Economy. Yojana. 41,6; 1997, June; 4-8 and 10.

The central question for sustaining and accelerating further agricultural growth in the Indian economy, however lies in development of policies which encourage, wide spread and given India's agro-climatic diversity, by defining diversified growth, and to supplement a more appropriate economic environment, with policies encouraging much larger creation of amrketing, processing and commercial infrastructure.

-,-,AGRICULTURE UNIVERSITIES, VOCATIONAL TRAINING, PUNJAB

159. NARESH (KP). Vocational Training Course. University News 30,21; 1992, May; 28.

An integrated vocational Training course of one month's duration for unemployed youth, sponsored by centre for training and Employment of Border. Youth, was recently inaugurated by Shri Jagjit Singh Hara, Member of the Board of Management, Punjab Agricultural University. The course was being conducted by the Department of Extension Eduction of the University.

-,-,BANKS, RURAL DEVELOPMENT

160. SHARMA (PS). Agriculture and Rural development banks. Yojana- 40,5; 1996, Oct; 27-30.

The Agriculture and Rural Development Banks (ARDBs) have over the years emerged as important rural credit instituions in the co-operative sector and have performed valuable service in providing long term credit to the farming community and other enterpreneurs in rural areas. They have provided loans for activities like minor irrigation, farm mechanisation, horticulture and plantation, poultry, agriculture etc.

-,-,FERTILISER in HIGHER PRODUCTIVITY

161. MEHTA (CK). Massive rise in fertiliser output vital to meet food target. Economic Times. 31,304; 1992, Jan 2;16:1.

Fertiliser consumption in India has attained an impressive level of 12.5 million tonnes (1990-91) and thus grown by about 108 percent over the decade. The long term (2000 AD) requirements of foodgrains in India are estimated to be in the region of 240 million tonnes against the present level of production of 175 million tonnes.

-,-,U.S.A.

162. SAHAI (Suman). United states Pressure to exploit Indian Agriculture. Mainstream. 34,18; 1996, April 6; 23-4.

India will suffer a tremendous setback by allowing multinational companies to exploit its agricultural sector. This is our strongest and most promising sector. Economists estimate that increstments in agriculture will show profitable returns within five years. To produce similar results, Indian industry will need 15-20 years. Our reserves of skilled scientific manpower, good technology stand and diversity of genetic resources, enables us to become globally competitive in the field of agro-biotechnology and seed production.

-,SEEDS, POLICY, PROGRAMMES

163. KHANNA (SS). Seed: New Policy and Programmes. Yojana, 33, 23; 1989, Dec. 16-31, 21-3.

Seed is a living embryo and this is the most vital basic input for attaining sustained growth andproduction of various agricultural crops. Infact seed is the real vehicle of production and other inputs like water and fertilizer can be regarded as fuel. Seed research is the real backbone of the seed

strategy. No certified seed would be worth a paise if the nucleus, breeder, foundation seeds are not of proven quality and tpe having the desired yield potential.

-,SERICULTURE ECONOMICS

164. PANDEY (RP). Economies of sericulture Industry. Mysore Economic Review. 67,10; 1982, Oct; 75-9.

Japan and China are the two largest producers of silkin the world today. Total world production of mulberry silk is 48,000 tons, of which Japan produces 18,000 tons, Chian 15,000 South Korea comes next and USSIR jourth. India ranks fifth with 2,8000 tonnes. Until few years ago, India was fourth. South Korea has overtaken and produces twice as much as India.

-,-,MULBERRY CONSTRAINTS

165. PANDA (SK). Mulberry sericulture in new areas. Yojana. 38, 11;1994, Jun 30; 16-9.

Poverty and unemployment are two major problems faced by our country today. As our economy is mainly based on agriculture, any meaningful solution to these problems would come from agriculture and allied sectors. Mulberry sericulture is a land-based activity, with good potential for

generating productive employment. The first constraint in development & sericulture in new areas is the absence of a suitable extension set up. Availability of fund is another important constraint.

-,-,PROFITABILITY

166. KAMALAMMA (N), MRIDULA REDDY (D)& JOSEPHINE (I). Sericulture-lucrative cottage industry. Kurukshetra. 44,3; 1995, Dec; 37-8.

In India, sericulture is being practiced successfully as a viable rural industry mainly because it provides renumerative employment to families and labour throughout the year and also ensures periodic income even with small land holdings.

-,-,PROSPECTS

167. PAUL(S). Sericulture: bright prospects. Yojana. 34,20; 1990, Nov. 1-15; 28&34.

Sericulture comprises three distinct activities-cultivation of mulberry/other food plants, rearing of silkworms and racling of cocoons. India has virtually reached the take-off stage in silk production. The appropriate technology has been evolved and demonstrated. Prospects are bright for

the quantum jump which could mean a golden revolution particularly benefiting the weaker sections who can earn 55-60% of the total profits.

-,-,role in TRIBAL DEVELOPMENT

168. PANDA (SK). Sericulture for tribal Development. Yojana. 34,24; 1991, Jan 1-15; 20-3.

Tassar sericulture is practiced by the tribals of Orissa from immemorial. Rearing of tassar time silk worn in the sal and 'assam' trees in the natural forest has been one of the main subsidiary occupation of the tribals living in Mayurbhanj, Keonjhar, sunaargarh, Dhenkanal, Sambalpur and cuttack districts.

-,SILK CROPPINGM, MULBERRY in WATERSHED AREAS

169. MALLIKARJUNA (B), MADHVA RAO (YR) and DATTA (RK). Mulberry-an ideal crop in watershed areas. Kurukshetra. 43,3; 1994, Dec; 18-23.

A watershed is the land area from which surface water drains into a single outlet. Sericulture is an agro-based rural industry which provides employment for 10,31,439 families in the country India is the second largest producer of mulberry silk accounting for 15.76 percent of the

world production. In India, mulberry is being grown in about 3,13,109 hectares; of this 1,09,236 hactare account for cultivation under rainfed condition and 2,03,873 hactare under irrigated condition.

-,SILK MULBERRY DISEASE TUKRA

170. SIVAPRAKASAM (N) and CHANDRAMOHAN (N). Tukra disease in Mulberry. Kisan World. 23,9; 1996, Sept; 31.

The mulberry crop is subject to persistent pressure by more than fifty insect pests. Among them, pink nearly bug is considered as mostimportant pest. The pink mealybug is a sap feeder. The affected leaves exhibit crinkling symptom. The leaves become distorted, thicker, curled with district cavities in the intervenal region.

-,-,SILK REELING, KARNATAKA

171. SAMUEL (J) & ERAPPA (S). Silk Reeling Industry a concept. Indian Journal of Labour Economics. 28,3; 1985, Oct; 21-9.

Karnataka is the largest producer of mulberry raw silk accounting for 75 percent of the total production of 4,000 tonnes in the country, Within Karnataka, sericulture and raw silk production are concentrated mainly in the districts of Banglore,

Kolar, Tumkur, Mysore etc. Silk industry is highly labour intensive in their harvesting and processing and thus well suited to a labour abundant economy as ours.

-,SILK WEAVING, ART, SURAT, GUJARAT

172. MINAKSHI (T). Art silk Weaving industry of Surat Yojana. 33,18, 1989, Oct 1-15; 24-5 & 32.

With the ever growing population and stagnancy in acreage in cotton cultivation the art silk weaving industry is bound to be the atternative for meeting the clothing requirements of the masses. Keeping this inmind, the government should come in a big way to assist the development of the industry. The twin problems of the shortage of raw materials and theproper marketing avenues should be tackled on priority basis so that the industry becomes viable and competent to meet the demands of the day.

-,SOYABEAN, PRODUCTION

173. NAWAB (A). Status and Prospectsof Soybean Industry in India. Indian Food Industries. 15,3; 1996 May, 43-6.

Soyabean production in India in 1995-96 is likely to be over 4 million tonnes. Presently, there are 154 soybean solventoil extraction plants, 60 say

food manufacturing units, 30 companies dealing with equipment and 15 organisations and agencies involved in soyabean trade. India being a non traditional soyabeen producing country, there have been some difficulties in promoting the use of soyabeen products.

-,SPICES, BANK SUPPORT

174. HEGDE (RN). Bank Support to Growing Spices. Yojana. 40,1 ; 1996, Dec; 28-9 & 38.

Our country enjoys a wide range of soil and climatic conditions enabling us to grow a number of spices. While Indiaproduces high valued saftron in temperate zone in Kashmir in the north, the black papper, "the king of species or black gold and cardomon, the queen of species and other plantation spices are grown in down south in tropical zone in Kerala.

-,-,CARDAMOM PLANTATION, COST ANALYSIS

175. GURUMOORTHY (TR) and MURUGESWARI (M). Cardamom plantation cost: An analysis. It has a warm, slightly pungent and highly aromatic character. The cost is classified into three categories. 1. Development cost; 2. Overhead cost and; 3. Ex-farm expenditure.

The overhead cost includes the expenditure on acquiring land, tools, implements, buildings etc. The development cost consists of cultivation cost and return on investment. The ex-farm expenditure includes the various taxes, transport charges and auction charges.

-,-,-,PROBLEMS

176. BOSE ROY (Shoma). Trapped in a familiar syndrome. Economic Times. 32, 245; 1992, Nov 5; II:1.

Cardamom is trapped in a familiar syndrome: Stagnant output, low productivity, isntability in rices and a rapid shrinkage in export markets. Productivity of cardamom is low because of lack of sufficient high yielding material, genetic variances in saplings, small size of holdings, pests and disease and generally unscientific methods of cultivation. Efforts are being made to increase cardamom productivity.

-,-,-,PRODUCTION

177. SUNDARAM (I). Cardamom facing fluctuating fortimes. Financial Express. 18, 77; 1992, May 15; 7:1.

Cardamom is generally known as queen of spices cardamom is one of the most commercially profitable

spices. cardamom never experienced steady growth. It continues to face fluctuating fortunes. Its production was 3170 tonnes in 1970-71. This increased to 4500 tonnes by 1979-80, but declined to 2900 tonnes in 1982-83 and to 1600 in 1983-34. Though production picked up to 4700 tonnes in 1985-87, itfell to 3200 tonnes in 1987-88. Production again raised to 4250 tonnes in 1988-89.

178. THAKER (DP). Cardamom: No more forex earner. Economic Times. 33, 177; 1993, Aug 28; 9:3.

Cardamom, the queen as it were of Indian spices, has been completely sidelined in International market. Cardamom, though high priced spice, has no more remained a major earner of foreign exchange among spices. It is to be emphasised that the laid on stepping up production by adopting modern techniques of cultivation to regain the pre-eminentposition in the world market.

-,-,-,and EXPORT

179. CHACKO, JOSE (P) Production and export of Cardamom in India. Yojana. 38,21; 1994, Nov. 30; 15-6.

India is the single largest producer, consumer and export of spices in the world. Cardamom, which is

commonly known as the queen of spices is one of the most exotic and highly prized spices. Though India was the world leader in the production and export of cardamom until late 1970s, today it enjoys only a nominal share of world production and export. Productivity of India cardamom is one of the lowest in the world.

-,-,SMUGGLING

180. THAKER (DP). Cardamom: Tackling smuggling. Economic Times. 32,205, 1992, Sept 26;11:3.

Cardamom is not the only spice that is being smuggled into the country. Clove and cinnamom also enter the country through illict channels. There spices are choosen for smuggling as they are high priced and easy to carry. The smuggling of cardamom is a profitable proposition since it is available in the world market at fairly lower prices.

-,-,CHILLI, PLANTATION, EXPORT

181. VENKATESH (Latha). Chilli exports; Winners by accident, Economic Times. 33,128; 1993, July 18; 9:7.

Chillies must be the darling of the commerce and agricultural ministries. In a year when inflation

has always been round the corner domestically and when Indian exports from spices to manufactures being outprised by even tiny banana republic. Chillieshave turned in a wishing performance on every front. The world's demand for chillies is put at 20,000 tonnes per month.

-,-,CORDIANDER, MULTIPURPOSE USES

182. SRINIVASA MURTHY (BN) and NARAYANA SWAMY (P). Coriander: a multipurpose aromatic herb. India farming. 39,2; 1989, May; 13-5.

Coriander (Coriandrum sativum) is an aromatic annual herb, belonging to the family Apiaceae. India is the largest producer of coriander in the world. It is being cultivated in an area of 2.86 lakh hectares with an annual production of 1.02 lakh tonnes. The plants are grown in homegardens also for their aromatic and fragrant fruits and leaves. The dried ground fruits are used as condiment and are invariably a major constituent of curry powder employed for flavouring curries and soups.

-,-,EXPORTS

183. NAMBIAR (OTS). Spices Exports & Branding concept. Yojana. 35, 5; 191, March 16-31; 26-7 & 29.

To protect our spics from the international

market forces of price, supply and demand, we should reduce their commodity status and increase the value addition and branded status. With the advent of brands, the role of retail chain stores etc. has assumed crucial significance. Chain stores and supper markets catering to different segments of society should be persuaded by suitable tie ups to have exclusive show cases and display counters for Indian spices in consumer packs.

-,-,GINGER PRODUCTION PROBLEMS and PROSPECTS

184. VIGNESHWARA (V). Ginger production: problems and prospects. Yojana. 34,18; 1990, Oct. 1-15; 27-9 & 31.

Ginger is one of the important and ancient spices of India who is the largest producer of dry ginger in the world. Apart from India the other countries which produce Ginger are Japan, Jamaica, Indensia, Bangladesh, Fig 1, South Korea, Thailand etc. There is a need to supply qualitative high yielding varieties of Ginger seeds to the cultivators and the varieties should be supplied on the basis of agro-climatic conditions.

-,-,PAPER in ARECANUT GARDENS

185. RAMAKRISHANAN (Nayar TV). Grow Paper in Arecanut Gardens. Indian Farming. 32,1; 1982, April; 27-31.

In some of the are canut gardens of Kerala and Karnataka, papper in also grown by training it on the tunk of arecanut palms. Raizing papper in are canut garden will augment the net income of the farmer from the same garden. For the maximum productivity of pepper and arecanut, both the crops should be adaquately manured and the recommended package of practices should be carried out.

-,-,-,PRODUCTION

186. MOHAMMAD TUFAIL KHAN. Indian Peppering the world Market. Yojana. 34,20; 1990, Nov. 1-15; 31-2 & 34.

India had the monopolyin world papper production as well as trade until the beginning of the nineteenth century. Since then it lost not only the status of a monopolist but also the pride of place as the largestproducer and exporter of pepper in the world. It was mainly due to sudden emergence of Brazil and Indonesia as big trading partners. They had the advantages of higher productivity and lower cost of production. An important problem in boosting export of pepper is lack of improved methods of quality control and pre-shipment inspection suited to the importing countries.

-,-,SAFFRON CULTIVATION PRACTICES IMPROVED

187. MUNSHI (AM), SINDHU (JS) and BABA (GH). Improved cultivation practices for saffron. Indian Farming. 39,3;1989, June; 7-30.

Saffron or Kesar as it is called in Hindi is the most famous crop of Jammu and Kashmir Saffron is grown in tehsil Kishtawar of district Doda in Jammu, and in the districts of Pulwama, Srinagar, Budgam and Anantnag in Kashmir. Saffron plant is a smell perennial herb with Globular corns which attain the size of 1.5 to 5 cm in diameter. The plant remains dormant from May to August.

-,SUGAR DEMAND

188. GANESH KAWADIA. Demand for Sugar in India-An Econometric analysis. Southern Economist. 24,4; 1985, Jun 15; 15-6.

Efforts to increase xportable surplus by reducing domestic consumption through price increase are not likely to succeed. Decontrol of sugar price and removal of controls on its distribution are likely to generate instability in the sugar market and adversely affect the interest of the out effort to increase sugar production and stabilise its price world appear to be desirable.

-,-,and SUPPLY

189. GOPALAKRISHNA (D) & PRASAD (JVSD). Oscillations in Indian Sugar industry. Yojana. 33,10; 1989, June 1-15, 22-5.

India has emerged as the largest producer of sugar in the world. Sugar industry on the production front is all set to achieveimpressive results. Sugar, production which depends mainly on the sugarcane cultivation has been experiencing surplus and deficit periods in the past. A combination of several adverse factors like shrinkage in cane acreage, lower ields, inability of sugarmills to pay high cane prices have been responsible for the inconsistent production trends.

-,-,PRODUCTION from COCONUT PALM

190. THAMPAN (PK). Production of Sugar from coconut palm. Kisan World. 23,4; 1996, April; 29.

Coconut sugar is a product of commercial importance from with an expanding domestic market. The prodction of sugar from coconut is not a popular activity in the major coconut growing states of India. Sugar production from coconut palm is labour intensive requiring not much of capital investment. When organised as a rural activity under the acgrs of grower's Co-operatives, it could generate additional

income and employment to a sizeable section of the rural community in the coconut growing states.

-,-,PRODUCTIVITY roleof MODERNISATION

191. RAM (S). Scope for Raising sugar Productivity. Economic Trends. 12,2; 1983, Jan 16; 13-4.

There is a scope for doubling the productivity of the sugar industry through modernisation and rehablitation of old units, expansion of under capacity factories and by adoptingmodern techniques that have developed in the processing opertions. This has been observed by the committee set up by the Development Council for the sugar industry to study its productivity problems.

-,SUGARCANE, BY, PRODUCTS

192. GANAJAXI and MATH (KK). Sugarcane- a new approach. Kisan World 23,4;1996, April; 13.

Ethanol, an important source of energy can be obtained mainly from sugar industry as a by-product. Ethanol can be produced directly from sugarcane juice by fermentationmethod insteadof getting as a by-product of sugar industry. In terms of potential yields of ethyl-alcohol, sugarcane stands first

compared to other sugar yielding crops as per the data recently published. Ethanol production from sugarcane can be improved by modifying the agronomic practices.

-,-,JUICE, USES

193. MANN (RS) and SINGH (S). Processing, packaging and preservation of Sugarcane juice. Indian-farming. 37,12; 1988, Mar; 15-7.

If the processing of sugarcane juice is tagged with the dairy plants, its processing packaging and storage can be done using the same facilities which are used for milk processing. This not much additional expenditure will be involved not only this, some of the dairy by-products such as when resulting from the manufacturing of paneer, channa and cheese and buttermilk from butter manufacture can be blended with sugarcane juice to produce nutritious beverage.

-,-,MOLASSES use in LIVESTOCK FEEDING

194. SHARMA (PC). Molasses in livestock feeding. Indian farming. 30,10; 1981, Jan; 33-4.

In India, molassesis generally obtained from sugarcane as a by-product. The feed value of molasses

for ruminants & widely recognised all over the world because it is oneof the cheepest source of energy. It is rich in potash which can be recovered from spent wash of distilleries. The molasses is mainly used for the manufacture of alcohol but hardly 55-60 percent of it is utilized. This is mainly due to lack of storage facilities.

-,-,SUGAR

195. TANEJA (KC) and SHARMA (BK). Study on the Sugar industry. Yojana. 41,3; 1997, March; 12-4 and 22.

It has been observed that the production of sugarcane was only 57.1 million tonnes during 1950-51 and it increased to 265 million tonnes in 1995-96, an annual compound growth rateof 3.5% has been observed during the last four decade in theproduction of sugarcane. The area under sugarcane during 1950-51 was 1.7 million hectare which increase to 3.8 million hectares at present. The per capita availability of sugar has increased from 5 kg during 1955-56 to 7.4 kg in 1970-71. However during 1990-91 the per capita availability of sugar has increased to about 13 kg. The annualincrease in per capita availability of sugar works out to 2.8 present during the last there decades.

-,TECHNOLOGY effecton EMPLOYMENT FARM

196. RAO (KC). New Agricultural Technology and Farm Employment. Indian Journal of Labour Economics. 28,3; 1985 Oct; 207-12.

One of the important aspects of the New Agricultural Technology is its impact on form employment. The study of this impact is significant not only for the purpose of economic analysis but also from the point of view of policy. Researchers are divided in their opinion with regard to the impact of new technology on farm employment.

-,TOBACCO PRODUCTION

197. GUPTA (S B). Tobacco Production. Economic Trends. 16,9; 1987, May 1, 9-13.

The value of the crop in Andhra Pradesh in 1986-87 is estimated at 90 million kgs. against 80.5 million legs produced in 1995. Tobacco auctions in the state began in the second week of Feb, but purchases have been less compared to last year. Andhra Pradesh has been asked to instruct state agencies to intensity purchases to help growers and to consider providing inputs like coal and fertiliser to farmers on soft terms.

-,TREES EUCALYPTUS PLANTATION

198. AKMAL HUSAIN. Eucalyptus Farming: A boom or liability. Yojana. 35,12; 1991, July 15; 26&28.

Eucalyptus tree was brought to India by Tipu Sultan about 200 years ago in India, Eucalyptus has not only been grown as monoculture plantation on forest and agriculture land, but also as field bund plantations. In the current years the three has been criticised largely because of the lack of herbaceous vegetationin its vicinity. Continuous trials will be needed to find out the most suitable species for different sites for improving productivity.

-,-,WASTELAND, ALKALI SOILS

199. MEHTA (KK). Grow trees on Waste Alkali Soils. Indian Farming. 39,4; 1989, July; 25-8.

Technology is now available for farmers who wish to grow trees on their alkali wastelands. This ten step technology was tested on a farmer's field in a village in Karnal. Five years after the planting of the saplings, the farmer has new trees valued at Rs one lakh five thousand per hectare. This approach of growing trees has been adopted by the farmers on a large scale. The small farmers who had very small

holdings of alkali lands have planted trees along the field bunds, thus growing crops and trees side by side.

-,VANASPATI

200. THAKER (DP). Vanaspati industry: On the brink. Economic Times. 32,38; 1992, Apl 11; 10:3.

Vanaspati production is stated to suffer a severe setback during the current oilyear. Infact, the production has been on the decline for the past few years. It dropped from 9.70 lakh tonnes in 1988-89 to 8.81 lakh tonnesin 1989-90 and to 8.17 lakh tonnes in 1990-91. The vanaspati industry is capable of using all types of oils for the manufacture of its production.

PART - THREE

INDICES

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LIST OF MONTHS

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LIST OF PERIODICALS AND NEWSPAPER SCANNED

Name of Periodical	Frequency	Place of Publication
ARTHA VIJNANA	Quarterly	Maharashtra
COOPERATOR	Monthly	New Delhi
ECONOMIC and POLITICAL WEEKLY	Weekly	Maharashtra
ECONOMIC TIMES	Daily	Maharashtra
ECONOMIC TRENDS	Quarterly	New Delhi
FINANCIAL EXPRESS	Daily	Bombay
INDIAN ECONOMIC JOURNAL	Quarterly	Maharashtra
INDIAN FARMING	Monthly	New Delhi
INDIAN FOOD INDUSTRIES	Annually	Karnataka
INDIAN JOURNAL OF AGRICULTURAL SCIENCES	Monthly	New Delhi
INDIAN JOURNAL OF LABOUR ECONOMICS	Quaterly	Bihar
INDIA TODAY	Fortnightly	New Delhi
JOURNAL OF RURAL DEVELOPMENT	Bi-Monthly	Hyderabad
KISHAN WORLD	Monthly	Madras
KUREK SHETRA	Monthly	New Delhi
LINK	Weekly	New Delhi
MANPOWER JOURNAL	Quarterly	New Delhi
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UNIVERSITY NEWS	Weekly	New Delhi
YOJANA	Fortnightly	New Delhi